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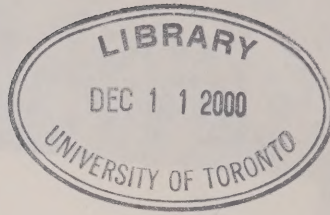


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TRANSFER OF PERMIT AUTHORITY TO REGIONAL OPERATIONS

RECOMMENDATIONS OF THE PERMIT TRANSFER COMMITTEE

**DISCUSSION PAPER
DRAFT 4
OCTOBER 14, 1992**



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EXECUTIVE SUMMARY

In May 1992 the Permit Transfer Committee (PTC) was formed in order to make recommendations to the Pesticide Manager's Committee (PMC) regarding the transfer of the pesticide permit authority entirely to Regional Operations Division (ROD).

The following report provides a detailed summary of the permit approval procedure and overall system as it is currently administered by both ROD and Hazardous Contaminants Branch (HCB). The PTC has reviewed this system and in the interest of streamlining recommends the following:

- 1) The review and issuance of permits be administered entirely by ROD.
- 2) The creation of three permit applications (land, structural and aquatic) with only an Original and Regional copy.
- 3) The development of a standard **permit application user manual** for each permit type which provides completion instructions, support documentation requirements and final report submission itinerary.
- 4) The development of a **permit reviewer manual** which instructs the ROD permit reviewer to follow a standardized step-by-step procedure for reviewing a permit application and includes a copy of the standard amendments for each permit type.
- 5) The review and streamlining of current guidelines, information sheets and reports for pesticide applicant use.
- 6) The development and utilization of a standard computer database for ROD to track permit applications and input and summarize permit information. A system that is user friendly, multi-functional, capable of generating form letters and standard amendments and collating information. The INFORMIX database be modified to incorporate these needs.
- 7) The development of a standard submission format within the database for the transfer of permit information to HCB by ROD at the end of the fiscal year.
- 8) The development and implementation of items 1 through 7 be in place and administered solely by ROD no later than April 1, 1993. The aquatic permit system be given first priority followed by land and structural such that the aquatic component is fully functional by January 1, 1993.

CURRENT PERMIT PROCESSING AND APPROVAL SYSTEM

1.0 INTRODUCTION

The Pesticide Transfer Committee (hereby referred to as the Committee) was established to review the current permit system and recommend changes to streamline the process and to outline the steps for transferring the function of issuing permits from Hazardous Contaminants Branch (HCB) to Regional Operations Division (ROD).

Specific objectives include:

- document existing procedures and streamline the process.
- review permit application forms.
- determine appropriate support documentation.
- identify criteria for permit review and the process for assessing permit applications.
- develop standard amendments for permits.
- prepare manuals outlining procedures.
- develop a standard, user friendly database for compiling information.

The requirement for pesticide use permits is prescribed in Section 7 of the *Pesticides Act*. Permits are required to ensure that highly toxic pesticides or those of environmental concern are applied with minimal risk to the applicator, general public and the environment. The following land, structural and aquatic uses are subject to permit requirements.

Land Uses:

Land exterminations subject to permit requirements are outlined in Sections 60, 61 and 67 of Regulation 751 and include:

- a) use of a schedule 1 or 5 pesticide by a certified agriculturist or licensed exterminator;
- b) use of a schedule 2 hormone-type herbicide or TBA, fenac, picloram or paraquat (aerial application);
- c) use of a pesticide on Crown timber production areas (aerial application); and,
- d) use of a pesticide containing fenoprop, picloram, 4-aminopyridine or 2,4,5-T (ground application).

Structural Uses:

Structural exterminations subject to permit requirements are outlined in Sections 30, 31, 33, 42 and 43 of Regulation 751 and include:

- a) use of a fumigant for a general space fumigation by a licensed exterminator;
- b) use of a fumigant beneath a tarpaulin, in a room, silo, bin or container within an occupied building by a licensed exterminator; and,
- c) use of a schedule 1 pesticide by a licensed exterminator.

Aquatic Uses:

Aquatic exterminations subject to permit requirements are outlined in Sections 83 and 84 of Regulation 751 and include:

- a) use of a pesticide in a water body that discharges directly or indirectly into another watercourse; and,

- b) use of a pesticide in a drainage ditch that contains moving water.

Other Minor Uses:

In addition to the above, there are exemptions under Regulation 751 to allow for consideration of the issuance of a permit to an unlicensed user.

1.1 PERMIT REFUSAL

Under Section 11(3) of the *Pesticides Act* the Director may refuse to issue or revoke a permit based on reasonable and probable grounds. The Director must (as per Section 13 (10) of the Act) inform the applicant in writing* of the reasons for refusal and the appeal procedure.

2.0 PERMIT TYPES

TABLE 2.0 provides detailed information on the types of land, structural and aquatic permits including applicant, use description, legal requirements under Regulation 751, application form number, specific pesticides, percentage and number of permits issued in 1991. Application forms for a permit are specified in the Regulations and examples are appended to this report**.

In 1991, a total of 2030 permits were issued. Land permits made up 62.5%, structural permits 3.5% and aquatic permits 34% of this total. The highest percentage of land permits were those issued for the aerial application of glyphosate in Crown forestry production (24%) and for the aerial application of carbofuran in agricultural production (24%). The highest percentage of structural permits were issued for use of methyl bromide space fumigations (3.4%) and the highest percentage of aquatic permits were issued for aquatic weed control with diquat (29%).

* See APPENDIX I for a sample refusal letter.

** See APPENDIX II for examples of forms 3,4,5,7 and 10

TABLE 2.0.1 SUMMARY OF LAND, STRUCTURAL AND AQUATIC PERMITS

TYPE OF PERMIT	APPLICANT	USE DESCRIPTION	REG. 751 Sec.	FORM NO.	PESTICIDE ACTIVE INGREDIENT (NAME(S))	% AND NUMBER ISSUED (1991)
Land-Forestry (aerial application)	♦Exterminator Class 7 & 8	♦schedule 1 or 5 products ♦schedule 2 product containing a hormone-type herbicide or TBA, fenac, picloram or paraquat by aircraft ♦Crown timber production	67(1), (2)	5*	•Bt(Thuricide, Futura, Dipel) •2,4-D •Glyphosate (Vision) •Hexazinone (Velpar) •Aminocarb (Matacil) •Fenitrothion (Folithion, Sumithion) •Carbaryl (Sevin)	6 (125) 2 (41) 24 (487) <1 (9) 0 0 0
Land-Right-of-Way (ground application)	♦Exterminator Class 1,2,3,4 or 10	♦any product containing fenoprop, picloram, 4-aminopyridine or 2,4,5-T	61(3)	10	•Picloram (Tordon 101, Tordon 10K**)	2 (41)
	♦Exterminator Class 1,2,3,4 or 10(unless stipulated on licence)	♦any schedule 1 pesticide	60	10	NA	0
Land-Agriculture (aerial application)	♦Exterminator Class 7, 8	♦schedule 1** or 5 product ♦schedule 2 product containing a hormone-type pesticide or TBA, fenac, picloram or paraquat	67(1)	5	•Carbofurn (Furadan) •2,4-D •Methamidophos (Monitor) •Azinphos-methyl (Guthion) •Mevinphos (Phosdrin) •Parathion •Oxamyl (Vydate)	24 (491) 1.4 (28) <1 (13) 1.5 (31) <1 (2) 0 <1 (3)

TYPE OF PERMIT	APPLICANT	USE DESCRIPTION	REG. 751 Sec.	FORM NO.	PESTICIDE ACTIVE INGREDIENT (NAME(S))	% AND NUMBER ISSUED (1991)
Land-Agriculture (special ground application)	♦Exterminator Class 5 & 10 ♦Exterminator 5,6,9 & 10(unless stipulated on licence)	♦any product containing 4-aminopyridine	61(3)	10	♦4 amino-pyridine (Avitrol)	0
		♦any schedule 1 pesticide	60	10	NA	0
Land-Agriculture (special ground application)	♦Certified Agriculturist	♦any schedule 1 product	60	10	NA	0
		♦import of an unregistered product, that is identical to a currently registered and classified product, for use on the permit holder's property	21(7)	3	NA	0
	•Licensed inspector under the <i>Bees Act</i> or <i>Fur Farms Act</i>	♦cyanide and/or methyl bromide	75 & 76	10	•Calcium cyanide •Methyl bromide (Methogas)	0 0
Structural-schedule 1, 2 and 5 products (other than space fumigants)	♦Unlicensed persons	♦structural exterminations	30(1)	10	•Fenthion (Rid-a-Bird)	<1 (1)
Structural-schedule 1 products (space fumigants)	♦Exterminator Class 1 & 6	♦space fumigation	33	4	•Methyl bromide (Methogas) •Aluminum phosphide (Phostoxin, Detia, Fumitoxin)	3.4 (68) <1 (2)
Structural-schedule 1 products (other than space fumigants)	♦Exterminator Class 1 & 6	♦products other than space fumigants	30(1)	10	•Sodium fluoride	0

TYPE OF PERMIT	APPLICANT	USE DESCRIPTION	REG. 751 Sec.	FORM NO.	PESTICIDE ACTIVE INGREDIENT (NAME(S))	% AND NUMBER ISSUED (1991)
<u>Aquatic</u> -herbicides	♦ Exterminator Class 1 & 3 ♦ Property owner/full-time employee	♦ schedule 2,3,4 or 6 herbicides into a waterbody that directly or indirectly discharges into another waterbody ♦ schedule 2,3,4 or 6 herbicide in a drainage ditch that contains moving water	83 and 84	7	•Diquat (Reglone A) •Paraquat (Gramoxone) •Water soluble dye (Aquashade) •Copper (Cutrine-plus) •2,4-D (Aquakleen**) •Simazine (Princep, Nine-T, Simadex, Algimycin) •Diuron (Karmex**, Diurex**) •Amitrole	29 (587) <1 (4) <1 (13) 1 (22) <1 (14) 1.3 (27) 0 0
<u>Aquatic</u> -non-herbicides	♦ Exterminator Class 2 and 3 ♦ Property owner/full-time employee	♦ schedule 2,3,4 or 6 pesticide (other than a herbicide) into a waterbody that directly or indirectly discharges into another waterbody	83	7	•Bt (Vectobac, Teknar, Bactimos) •Rotenone •Methoprene (Altosid) •Niclosamide (Bayluscide) •@,@,@-Trifluoro-4-nitro-m-cresol (Sea Lamprey Larvicide) •Niclosamide & @,@,@-Trifluoro-4-nitro-m-cresol (Baylicide TFM)	<1 (3) 0 <1 (1) <1 (9) 0 <1 (8)

* Permit application forms are attached in APPENDIX II.

** No longer on the commercial market although stock may still be available.

*** There are no products classified in schedule 1 allowable for use from an airborne machine.

3.0 PROCEDURES FOR ISSUING LAND, STRUCTURAL AND AQUATIC PERMITS

Permit applications are submitted directly by applicants to local MOE Regional or District offices. In five regions (South-East, North-West, Central, West-Central and South-West) permits are reviewed by Pesticide Officers. In the North-East Region, Approval and Planning staff are responsible for reviewing permits.

The review includes:

- a) applicant information- the applicant is permitted to use the pesticide that he/she has applied for; the appropriate licence number(s) or certified agriculturist number are shown (valid licence information and insurance documentation is maintained and updated by Approval Branch by way of the PLIS database system); the applicant has signed and dated the application.
- b) pesticide information- the pesticide product is registered for use on the target pest and type of pesticide application procedure and classified in Ontario (product database maintained by HCB and provided to ROD through hardcopy).
- c) site information- the rate of application and timing of application is correct; total proposed quantity is properly calculated; environmental and health concerns identified as per label instructions (microfiche copies of labels are made available to ROD); and provincial guidelines that may apply to the application have been addressed.
- d) support documentation- if required, a map of the application site and/or project description must be included with the permit application (MOE staff may elect to visit the site to confirm documentation).

Detailed information on the steps involved in issuing land, structural and aquatic permits are summarized in TABLES 3.01, 3.02 and 3.03 respectively. These steps include the application requirements, ROD review, HCB review and approval and record keeping and are outlined for each permit type.

TABLE 3.0.1 PROCESS FOR ISSUING LAND PERMITS

STEPS	FORESTRY	AGRICULTURE (AERIAL)	AGRICULTURE (SPECIAL USE)	RIGHT-OF-WAY
PERMIT APPLICATION REQUIREMENTS	1. Application submitted to ROD on Form 5. ♦ aerial photo ♦ submit 60 days prior	1. Application submitted to ROD on Form 5. ♦ spray block map ♦ submit 30 days prior	1. Application submitted to HCB on Form 10.	1. Application submitted to ROD on Form 10. ♦ topographical map
ROD REVIEW	2. Review by ROD as per Section 3.0 above.	2. Review by ROD as per Section 3.0 above.	2. Not applicable	2. Review by ROD as per Section 3.0 above.
	3. Site inspection if necessary.	3. Site inspection if necessary.	3. No site inspection.	3. Site inspection if necessary.
	4. Permit No. assigned by ROD.	4. Permit No. assigned by ROD.	4. Not applicable.	4. Permit No. assigned by ROD.
	5. Standard amendments* appended by ROD.	5. Standard amendments* appended by ROD.	5. Not applicable.	5. Standard amendments* appended by ROD.
	6. Special amendments appended if required.	6. Special amendments appended if required.	6. Not applicable.	6. Special amendments appended if required.
	7. ROD approval recommendation (letter or sign-off).	7. ROD approval recommendation (letter or sign-off).	7. Not applicable.	7. ROD approval recommendation (letter or sign-off).
HCB REVIEW	8. Application and amendments sent to HCB for review.	8. Application and amendments sent to HCB for review.	8. Permit number assigned and standard amendments* appended	8. Application and amendments sent to HCB for review.
	9. HCB enters information into INGRES.	9. HCB enters information into INGRES.	9. HCB enters information into INGRES.	9. HCB enters information into INGRES.
APPROVAL AND RECORD KEEPING	10. Signature of Director under the Act.	10. Signature of Director under the Act.	10. Signature of Director under the Act.	10. Signature of Director under the ACT.

STEPS	FORESTRY	AGRICULTURE (AERIAL)	AGRICULTURE (SPECIAL USE)	RIGHT-OF-WAY
APPROVAL AND RECORD KEEPING	11. Original sent to applicant with: ♦ summary spray report** ♦ buffer zone guideline**	11. Original sent to applicant with: ♦ guidelines to reduce aerial migration of pesticides***	11. Two copies of original sent to applicant with: ♦ specific user criteria information sheet on active ingredient**	11. Original sent to applicant with: ♦ summary spray report** ♦ buffer zone guideline**
	12. Copy sent to ROD.	12. Copy sent to ROD.	12. Copy sent to ROD.	12. Copy sent to ROD.
	13. Copy retained by HCB.	13. Copy retained by HCB.	13. Copy retained by HCB.	13. Copy retained by HCB.
	14. Final report due from applicant within 3 months	14. No report due from applicant.	14. At season end applicant is to return additional copy of application to HCB to show amount purchased as validated by vendor.	14. Final report due from applicant within 3 months.

* Standard amendment letters are attached in **APPENDIX III.**

** Spray reports, information sheets and guidelines are attached in **APPENDIX IV**

*** Guidelines are attached in **APPENDIX VI.**

TABLE 3.0.2 PROCESS FOR ISSUING STRUCTURAL PERMITS

STEPS	STRUCTURAL (SCHEDULE 1)	STRUCTURAL (SPECIAL USE)
PERMIT APPLICATION REQUIREMENTS	1. Application submitted to ROD on Form 4. ♦ Health Dept. letter (if site is a food serving facility) to indicate sanitation is not an issue ♦ site map ♦ aeration plan (if requested) ♦ submit 15 days prior	1. Application submitted to ROD on Form 10 ♦ support documentation upon request
ROD REVIEW	2. Review by ROD as per Section 3.0 above.	2. Review by ROD as per Section 3.0 above
	3. Site inspection if necessary	3. Site inspection if necessary
	4. Special amendments appended	4. Special amendments appended
HCB REVIEW	5. Application/support documentation/amendments and ROD approval recommendation sent to HCB for review ♦ permit number is assigned ♦ standard amendments are appended*	5. Application, amendments, support documentation and ROD approval recommendation sent to HCB for review ♦ permit number is assigned ♦ amendments (if any) are appended
	6. HCB enters information into WordPerfect database	6. HCB enters information into WordPerfect database
APPROVAL AND RECORD KEEPING	7. Approval and signature of Director under the Act	7. Approval and signature of Director under the Act
	8. Original sent to applicant with amendment letter	8. Original sent to applicant with amendment letter
	9. Copy sent to ROD	9. Copy sent to ROD
	10. Copy retained by HCB	10. Copy retained by HCB
	11. Final report due from applicant within 7 days	11. Final report due from applicant upon request

* Standard amendment letters are attached in **APPENDIX III**.

TABLE 3.0.3 PROCESS FOR ISSUING AQUATIC PERMITS

STEPS	AQUATIC (HERBICIDE)	AQUATIC (NON-HERBICIDE)
PERMIT APPLICATION REQUIREMENTS	1. Application submitted to ROD on Form 7. ♦ area map and support documents ♦ submit 30 days prior	1. Application submitted to ROD on Form 7. ♦ area map ♦ submit 30 days prior
ROD REVIEW	2. Review by ROD as per Section 3.0 above. ♦ permit number assigned	2. Review by ROD as per Section 3.0 above. ♦ permit number assigned
	3. Site inspection if necessary.	3. Site inspection if necessary.
	4. Copy sent to MNR for comment.	4. Copy sent to MNR for comment.
	5. Standard amendments* appended/ MNR comments placed on working sheet.	5. Standard amendments* appended/ MNR comments placed on working sheet.
	6. ROD approval recommendation on working sheet**.	6. ROD approval recommendation on working sheet**.
HCB REVIEW	7. Application and amendments sent to HCB for review and compilation of amendments.	7. Application and amendments sent to HCB for review and compilation of amendments.
	8. HCB enters information into INGRES.	8. HCB enters information into INGRES.
APPROVAL AND RECORD KEEPING	9. Signature of Director under the Act.	9. Signature of Director under the Act.
	10. Original sent to applicant with: ♦ amendment letter	10. Original sent to applicant with: ♦ amendment letter ♦ notification criteria for larviciding***
	11. Copy sent to ROD and MNR.	11. Copy sent to ROD and MNR.
	12. Copy retained by HCB.	12. Copy retained by HCB.
	13. No final report due from applicant.	13. Final report due from applicant within 3 months for Lamprey control and by Sept. 30 for Mosquito control.

* Standard amendment letters are attached in APPENDIX III.

** An aquatic permit working sheet is attached in APPENDIX V.

*** A document outlining Notification Criteria for Mosquito Larviciding Programs is attached in APPENDIX VII.

3.1 GUIDELINES FOR ISSUING LAND, STRUCTURAL AND AQUATIC PERMITS

Only a few permit application guidelines and processing instruction manuals have been developed. The submission of incomplete or inadequate support documentation, incomplete application forms and a permit application submitted too late for adequate review has created problems in the past. As a result, the following guidelines and permit processing instructions have been prepared:

LAND

- Buffer zone guidelines* for aerial application of pesticides in Crown forests of Ontario
- Guideline* for Purchase and use permits (picloram)
- Guidelines* for protection of adjacent areas during aerial applications of pesticides to agricultural crops
- Guideline* to reduce migration of chemical contaminants and to prevent deposition of pesticides onto areas requiring protection during aerial application of pesticides to agricultural land

STRUCTURAL

- Requirements* for space fumigation

AQUATIC

- Guideline* for application for a permit to perform water extermination of aquatic plants
- Aquatic permit processing** instructions-herbicides

* Guidelines and requirements are attached in APPENDIX VI

** Processing Instructions are attached in APPENDIX VIII

4.0 HCB PERMIT DATABASES

HCB maintains two databases to record information on each approved permit. The land and aquatic permits are recorded on the INGRES software whereas the structural permits are recorded on WORDPERFECT. The type of data fields used to track information recorded from each permit is outlined in the following table.

TABLE 4.0.1 HCB PERMIT TRACKING SYSTEM

LAND PERMIT DATA FIELDS	STRUCTURAL PERMIT DATA FIELDS	AQUATIC PERMIT DATA FIELDS
<ul style="list-style-type: none"> ○ Permit Number ○ Region, District, County ○ Applicant Name, Company Name, Address and Telephone Number ○ Contact Person ○ Exterminator's Name, Licence Number ○ Operator's Name, Licence Number ○ Crop, Pest ○ PCP #, Active Ingredient ○ Area, Rate, Quantity, Number of Applications ○ Time, Location ○ Amendments, Data, Summary, Remarks 	<ul style="list-style-type: none"> ○ Permit Number ○ Region ○ Applicant Name and Company ○ Name of Property to be Fumigated, City ○ Type and Amount of Fumigant ○ Date Required ○ Date Received by ROD ○ Date Received by HCB ○ Date Signed by Director under the Act ○ Compliance with Sec. 34(5) 	<ul style="list-style-type: none"> ○ Permit Number ○ Region and District ○ Applicant Name, Telephone (Home and Business), Address ○ Applicant Mailing Address ○ Number of Properties to be Treated ○ Pest ○ Name of Waterbody ○ Length, Width, Depth, Size (metres)/Size (hectares) ○ Pesticide Leftover from Previous year, Previous Years Permit Number ○ Notification and Agreement by Adjacent Owners ○ Exterminator's Name and Licence Number ○ Treatment Size (m and h) ○ Pesticide and Rate Approved ○ Quantity Used, Quantity Purchased ○ Report ○ Date Approved

4.1 REGIONAL DATABASE SYSTEMS FOR PERMIT TRACKING

The six regional MOE offices retain a copy of all approved permits in various tracking systems, as outlined in the following table.

TABLE 4.1.1 CURRENT REGIONAL DATABASE PROGRAMS AND PERMIT TRACKING SYSTEMS

REGION	DATABASE PROGRAM	PERMIT TYPE
1-SW	none	
2-WC	none	
3-C	LOTUS	Aquatic
4-SE	INFORMIX	Aquatic
5-NE	dBASE	Forestry/Structural/Aquatic
6-NW	none	

Both the NE and SE have spent significant resources in the setting up and updating of their databases. The different systems used by ROD and HCB do not currently allow for the transfer of information at this stage because of unstandardized fields. The initiation of a province-wide and consistent database program is essential. Only a few ROD and HCB individuals have sufficient computer knowledge that would allow the ability to download information from one system to another. The minimal computer expertise and the infrequent use and accessibility to a computer system, the lack of a tracking system in SW, WC and NW Regions and the selective permit type tracking of the remaining regions indicates the need of a standardized and user friendly database for all regions and HCB.

4.2 SUMMARY OF PROBLEMS ASSOCIATED WITH THE PERMIT SYSTEM

The Committee recognizes the following problems associated with the permit review and processing system. These include:

- 1) Review and processing time period is often delayed due to duplication and forwarding of information from ROD to HCB.
- 2) Permit application instructions are either lacking or require streamlining.
- 3) Permit application forms require streamlining and continuity.
- 4) Permit review manuals are either lacking or incomplete.
- 5) ROD review of permits is inconsistent from one region to another.
- 6) Some amendment letters require editing in order to provide consistency.
- 7) Guidelines, spray reports and information sheets require streamlining.
- 8) A standard, user friendly database is required to track permits, generate form letters and collate data.

PROPOSED PERMIT PROCESSING AND APPROVAL SYSTEM

5.0 RECOMMENDATIONS FOR CHANGES TO ISSUING LAND, STRUCTURAL AND AQUATIC PERMITS

The Committee recommends that the current process for issuing permits be modified to include the following overall changes:

- 1) **The review and issuance of permits be administered entirely by ROD.** This action will create a more efficient system and reduce the turnover time involved in issuing permits. This will require the appointment of at least three Regional staff as Directors under the Act for Section 7 signing authority (i.e. Regional Director, Manager and Supervisor positions) ^a;
- 2) **The creation of three permit applications (land, structural and aquatic ^b) with only an Original and Regional copy.** A reduction of the five existing permit form types (i.e. 3,4,5,7 and 10) to three will provide a simpler form and less duplication of information. Changes to Regulation 751 will be required where form types are mentioned ^c;
- 3) **The development of a standard permit application user manual for each permit type^d which provides completion instructions, support documentation requirements and final report submission itinerary.** Currently only aquatic permit application instructions exist (i.e., Guideline for Application for a Permit to Perform Water Extermination of Aquatic Plants) and this information requires streamlining. The land and structural manuals need to be developed in a similar format.
- 4) **The development of a permit reviewer manual^e which instructs the ROD permit reviewer to follow a standardized step-by-step procedure for reviewing a permit application and includes a copy of the standard amendments for each permit type.** Currently only aquatic permit review instructions exist (i.e., Aquatic Permit Processing Instructions-Herbicides) and this information requires streamlining. Land and structural manuals need to be developed in a similar format;

a Section 3(1) as prescribed under the *Pesticides Act* allows the Minister of the Environment to appoint , in writing , employees of the Ministry as Directors under the Act and Regulation 751 and, as prescribed in Section 3(2) limit their authority as necessary. See APPENDIX IX for a list of recommended Directors Under the Act.

b See APPENDIX X for a draft aquatic permit application form.

c Changes to permit form numbers will require amendments to Regulation 751 Sections 21(7), 30(2), 60(2), 67(3) and 82.

d See APPENDIX XI for a draft aquatic permit application user manual.

e See APPENDIX XII for a draft aquatic permit reviewer manual.

- 5) **The review and streamlining of current guidelines, information sheets and reports for pesticide permit applicant use.** Detailed recommendations include:
- a) Streamline the existing guideline entitled "Buffer Zone Guidelines for Aerial Application of Pesticides in Crown Forests of Ontario" for inclusion into the permit application user manual section for Forestry permits.
 - b) Streamline the information contained in the existing guidelines entitled "Protection of Adjacent Areas During Aerial Applications of Pesticides to Agricultural Crops", "Guideline to Reduce Migration of Chemical Contaminants and Prevent Deposition of Pesticides onto Areas Requiring Protection During Aerial Application of Pesticides to Agricultural Land" and "Summary Spray Report" and incorporate these documents into the permit application user manual.
 - c) Revise and standardize user criteria information sheets (eg. Goal, Bayleton etc.) that will be appended to approved permit applications.
 - d) Revise the existing "Methyl Bromide Fumigation Procedures Manual" and the "Aluminum Phosphide Fumigation Procedure Manual" into a single manual that will include technical information and proper fumigation procedures, permit exemption guidelines, indoor and ambient air monitoring criteria, support documentation requirements and adjacent property notification procedures.
 - e) Streamline the existing guideline "Notification Criteria for Mosquito Larviciding Treatment Programs" and review and update if necessary information booklets provided in the permit applicant information kits.
- 6) **The development and utilization of a standard computer database for ROD to track permit applications and input and summarize permit information. A system that is user friendly, multi-functional, capable of generating form letters and standard amendments, and collating information. The INFORMIX database be modified to incorporate these needs.** Maps and other support documentation must be appended to the permit application and therefore retained by the region as hard copy therefore only a select number of data fields need to be placed into a permit database as outlined in the following table.

LAND	STRUCTURAL	AQUATIC
<ul style="list-style-type: none"> •Permit number •Applicants name/ Mailing address •Location of pesticide application •Crop to be treated •Pest to be controlled •Pesticide (and PCP No.) •No. of hectares applied for •No. of hectares actually treated •Rate of application •Quantity applied for •Quantity actually used •No. of applications •Date approved •Summary spray report submitted(Y/N) •Comments 	<ul style="list-style-type: none"> •Permit number •Exterminator name and licence number •Pest control company name/ Mailing address •Site (name/location by city) •Pest to be controlled •Product infested •Size (volume in m³) of structure •Pesticide (and PCP No.)/amount and rate 	<ul style="list-style-type: none"> •Permit number •Applicant name/ Mailing address •Number of properties •Name of waterbody •Pest •Exterminator Name and Licence number •Treatment size (hectares) and (m³) •Pesticide (and PCP No.) and Rate •Quantity to be used/Quantity to be purchased •Pesticide remaining

7. **The development of a standard submission format within the database for the transfer of permit information to HCB by ROD at the end of every fiscal year. This includes:**

- Total number of land, structural and aquatic permits issued by each region
- Total number of permits refused or withdrawn

LAND:

- Total number of Forestry permits issued by pesticide
- Total number of Agricultural (aerial and ground) issued by pesticide
- Total number of Right-of-Way permits issued by pesticide

STRUCTURAL:

- Total number of Fumigation permits issued by fumigant
- Total number of Special use permits issued by pesticide

AQUATIC:

- Total number of Herbicide permits issued by herbicide
- Total number of Non-herbicide permits issued by pesticide

- 8) **The development and implementation of items 1 through 7 be in place and administered solely by ROD no later than April 1, 1993. The aquatic permit system be given first priority followed by land and structural such that the aquatic component is fully functional by January 1, 1993. A new permit processing system will require a transition period and training process. HCB will provide technical assistance and training in the review of permits to ROD staff, where needed, during the transitional stage.**

APPENDIX I

Dear _____ :

Your application for a permit to perform an extermination for _____ at _____ has been received and reviewed.

It is my intention to refuse this permit on the basis of the Pesticides Act Section 11(3)(⁻) and ().

You have the right to appeal this decision under the Pesticides Act, by notification of your appeal within fifteen days of receipt of this notice in writing to myself and:

The Environmental Appeal Board
Secretary
5th Floor
112 St. Clair Ave. W.
Toronto, Ontario
M4V 1N3

If you have any questions, please do not hesitate to contact this office.

Yours very truly,

Director under the Pesticides Act

APPENDIX II



Ministry of the
Environment

Pesticides Control Section

Form 3

The Pesticides Act, 1973

Application for a Permit to use an imported, unregistered Pesticide

PLEASE PRINT CLEARLY

I, (name) _____ Telephone No. _____

of (mailing address) _____
P.O. Box, R.R. No.,
Apt. No.,
Number and Street
City, Town, etc.

POSTAL CODE _____

qualify as an agriculturist and apply to use on my own agricultural land the following imported unregistered pesticide:

PRODUCT NAME _____

ACTIVE INGREDIENT _____

TOTAL AMOUNT (QUANTITY) _____ RATE OF APPLICATION _____

CONCENTRATION _____ FORMULATION _____

to be applied at

LOT	CONC.	TOWNSHIP	MUNICIPALITY, CITY, TOWN, ETC.
-----	-------	----------	--------------------------------

for the control of _____ on _____ of acres of _____
PEST NUMBER CROP

Date _____ 19 _____ Signature _____

DO NOT COMPLETE - FOR MINISTRY USE ONLY

Permit No. _____

Permission is hereby granted under the Pesticides Act, 1973 and the Regulations to use the imported, unregistered pesticide

- ☐ in accordance with the conditions detailed in the above application
 or
☐ with the following amendments:

Date _____ 19 _____ Signature of Director _____

Ministère
de
l'Environnement

Direction de la coordination des normes
sur les polluants dangereux

The Pesticides Act - Form 4

La loi sur les pesticides - formule 4

**Demande de permis d'utilisation
d'un pesticide contenant du bromure de méthyle, des
phosphures ou des composés de cyanures.**

Écrire lisiblement en lettres moulées

3. Description of Premises (Attached or detached building, apartment, portion of a building, vehicle, etc.)
Description des locaux (bâtiments jumelés ou isolés, appartement, partie de bâtiment, véhicule, etc.)

Names, Addresses and Duties of Each Assistant Exterminator or Other Person Assisting. <i>Noms, adresses et tâches de chaque personne qui aidera le destructeur de nuisibles.</i>		
Name <i>Nom</i>	Address <i>Adresse</i>	Duties <i>Tâches</i>

-Ministry Use Only
Réserve au ministèrePermit No.
N° de permis

☐ in accordance with the conditions detailed above.
conformément aux conditions précisées ci-dessus.

☐ with the following amendments:
avec les modifications suivantes:

MOE 1219 (03/88)



Ministry
of the
Environment

Ministère
de
l'Environnement

Form 7

Application for a Permit to Purchase a Pesticide and/or Perform a Water Extermination

Formule 7

Demande de permis d'achat d'un pesticide et/ou de destruction de parasites aquatiques

Please print clearly.
Écrire lisiblement en lettres mouillées.

Attach a map of the treatment area. Indicate access route. / Joindre une carte de la zone à traiter. Indiquer le trajet d'accès.

Property Owner's Name / Nom du propriétaire de la propriété		Home Tel. / Tél. dom. ()		Bus. Tel. / Tél. bur. ()	
Home Address / Adresse du domicile				Postal Code / Code postal	
Mailing Address (if different from above) / Adresse postale (si elle est différente)				Postal Code / Code postal	
Name of Pesticide / Nom du pesticide		Pest Control Products Act No. / N° d'enregistrement		Active Ingredient / Ingrédient actif	
Formulation / Formule		Concentration		Rate Requested / Taux demandé	
				Quantity Requested / Quantité demandée	
Area to be Treated / Zone à traiter		Blackfly Treatment / Lutte contre les mouches noires			
Length (Frontage) / Longueur (façade)		Stream Flow / Débit du cours d'eau		Current Speed / Vitesse du courant	
Width / Largeur		Depth (Average) / Profondeur (moyenne)			
Name of Body of Water / Nom de l'étendue d'eau		Lot		Concession	
		Township / Canton		District/County/Municipality / District/Comte/Municipalité	
Name of Pest / Nom du parasite		Treatment Date / Date de traitement		No. of Treatments / Nbre de traitements	
				No. of Properties to be treated / Nbre de propriétés à traiter	
Previous Permit? / Permis antérieur?		Last Permit Year / Année du dernier permis		Last Permit No. / N° du dernier permis	
<input type="checkbox"/> Yes / Oui <input type="checkbox"/> No / Non				Amount of Pesticide left over from last treatment / Quantité de pesticide qui reste du dernier traitement	
Water in the vicinity of the treated area is to be used for: / Utilisations de l'eau aux alentours de la zone traitée:					
<input type="checkbox"/> Swimming / Natation <input type="checkbox"/> Crop Irrigation / Irrigation des cultures <input type="checkbox"/> Boating / Navigation de plaisance <input type="checkbox"/> Fishing (specify) / Pêche (préciser)					
<input type="checkbox"/> Drinking / Eau potable <input type="checkbox"/> Livestock Watering / Bétail <input type="checkbox"/> Aesthetics / Agrément esthétique <input type="checkbox"/> Other (specify) / Autre (préciser)					
Type of Sediment / Type de sédiment					
<input type="checkbox"/> Sand / Sable <input type="checkbox"/> Gravel / Gravier <input type="checkbox"/> Mud / Boue <input type="checkbox"/> Other (specify) / Autre (préciser)					
Have all adjacent owners, lessees or organizations been notified of the proposed treatment and have they all agreed, realizing use of the water may be temporarily restricted? / Tous les propriétaires, locataires ou organismes adjacents ont-ils été avisés du traitement proposé et ont-ils donné leur accord, sachant que l'utilisation de l'eau pourrait être temporairement limitée?					
<input type="checkbox"/> Yes / Oui <input type="checkbox"/> No / Non <input type="checkbox"/> Who notified them? / Qui les a avisés?					
Is the treatment to be done by an exterminator? / Le traitement doit-il être fait par un destructeur de parasites? <input type="checkbox"/> Yes / Oui <input type="checkbox"/> No / Non					
Exterminator's Name / Nom du destructeur				Exterminator's Licence No. / N° de permis du destructeur de parasites	
Address / Adresse				Postal Code / Code postal	
				Bus. Tel. / Tél. bur. ()	
Signature of Property Owner or Exterminator / Signature du propriétaire ou du destructeur				Date	

Ministry Use Only / Réserve au ministère

Permission is hereby granted under the Pesticides Act and Regulations to perform a water extermination:

La présente autorise aux termes de la Loi sur les pesticides et des règlements établis en vertu de celle-ci la conduite d'une opération de destruction de parasites aquatiques:

☐ with the attached amendments / avec les modifications ci-jointes

☐ In accordance with the above application / conformément à la demande ci-dessus

Permit No. / N° de permis		Expiry Date / Date d'expiration	
Signature of Director / Signature du directeur		Date	
District Contact - Ministry of the Environment / Contact au district - min. de l'Environnement		District Contact - Ministry of Natural Resources / Contact au district - min. des Richesses naturelles	

1220 (01/90)

THIS SECTION TO BE DETACHED AT TIME OF PESTICIDE PURCHASE/SALE AND RETAINED ON RECORD BY VENDOR
À DÉTACHER AU MOMENT DE L'ACHAT OU DE LA VENTE ET À GARDER EN DOSSIER PAR LE VENDEUR

This Permit No.
Ce permis n°

authorizes the purchase/sale of:
autorise l'achat ou la vente de:

1220 (01/90)



Ministry
of the
Environment

Hazardous
Contaminants
Branch

Ministère
de
l'Environnement

Direction des normes
sur les
polluants dangereux

The Pesticides Act - Form 10

Application for a Permit to Purchase and Use a Pesticide

La loi sur les pesticides - formule 10

Demande de permis d'achat et d'utilisation d'un pesticide

Please print clearly.

Écrire lisiblement en lettres moulées.

1. Applicant's Name Nom du demandeur		Home Tel. Tél. dom.	Business Tel. Tél. bur.	
Home Address Adresse postale au domicile		Postal Code Code postal		
Company Name Dénomination de la compagnie				
Business Address Adresse d'affaires		Postal Code Code postal		
2. Name of Pesticide Nom du pesticide		Formulation Formule		
Active Ingredient Ingrédient actif		Concentration Concentration	Total Quantity Quantité totale	
to be applied at à utiliser à raison de for control of pour la lutte on premises located at dans les locaux situés à during the period durant la période using en utilisant	Rate Taux	Crop or Area to be Treated Récolte ou zone à traiter		
	Name of Pest Nom du nuisible			
	Mailing Address Adresse postale			
	Lot Lot	Concession Concession	Township Canton	County, District or Regional Municipality Comté, district ou municipalité régionale
	From (Time and Date) Du (date et heure)		To Au	
Type of Equipment Type d'équipement				
3. Applicant Licenced under the Pesticides Act? Demandeur détenteur d'un permis aux termes de la loi sur les pesticides (the Pesticides Act)?		Type of Licence Type de permis	Class Catégorie	
<input type="checkbox"/> Yes Oui <input type="checkbox"/> No Non		<input type="checkbox"/> Land Exterminator Destruction de nuisibles - terrain <input type="checkbox"/> Structural Exterminator Destruction de nuisibles - structure <input type="checkbox"/> Water Exterminator Destruction de nuisibles - eau <input type="checkbox"/> Operator Exploitation	Number Numéro 	
Signature of Applicant Signature du demandeur		Date Date		

Ministry Use Only
Réservé au ministère

Permit No.
N° de permis

Permission is hereby granted under the Pesticides Act and Regulations to purchase and use a pesticide
La présente autorise aux termes de la loi sur les pesticides (the Pesticides Act) et des règlements établis en vertu de celle-ci l'achat et l'utilisation d'un pesticide

☐ in accordance with the conditions detailed above.
conformément à la demande ci-dessus.

☐ with the following amendments:
avec les modifications suivantes:

Signature of Director Signature du directeur	Date Date
---	--------------

APPENDIX III

April 1992

name
address
town
postal code

Dear name:

Permission is hereby granted under the Pesticides Act and the Regulation to perform extermination(s) from an airborne machine in accordance with conditions detailed in the application subject to the amendments which have been added.

The permit application and corresponding permit number(s)

number	number
number	number

are subject to the following amendments.

1. All pesticide applications will be made in accordance to Ministry of the Environment (MOE) guidelines for buffer zones for the aerial application of pesticides in Crown forests of Ontario (see attached chart, dated February, 1992).
2. Notify MOE Regional/District pesticides officer when spray operations commence in the area.
3. Submit a final summary report to MOE within three months following conclusion of the spray program (see attached "summary spray report" for details required in the final spray report).
4. Notify MOE Regional/District pesticides officer of the name and licence number of the operator and exterminator who will perform the extermination, prior to performing the extermination.

5. Permit holder must provide a copy of the permit and amendments to the licenced exterminator prior to performing the extermination.
6. Notify MOE Regional/District pesticides control officer prior to performing the additional application of pesticide which may be required due to adverse weather conditions or biological criteria, and provide reason for the additional pesticide application, the location of treatment, and the treatment period.
 - * Please note that for Bacillus thuringiensis (Bt) no more than three applications will be approved per permit number. If additional spray applications will be required, a new permit application must be submitted to the Regional/District Pesticides Officer prior to performing the extermination.
7. The application of pesticides will be made in accordance to the project description and letter supplied by _____ with the MOE permit.
8. Permit holder must provide, to MOE Regional/District pesticides officer, the Pest Control Products Act Registration number (PCP #) and the trade name of the pesticide to be used in this permit application prior to performing the extermination.
9. Permit number LA _____ for the rate of application of _____ is amended to reflect pesticide label directions. The recommended rate of application ranges from _____ to _____.
10. The rate of application for the requested pesticide must be in accordance with pesticide label directions.

Under Section 13(9) of the Pesticides Act, as amended in 1989 you may make a submission in writing to the Director, objecting to the conditions of the permit and upon what grounds the Director should reconsider and vary, rescind or confirm the decision regarding the permit.

Further, you may, by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, request a hearing by the Board. Section 13(10) of the Pesticides Act, R.S.O. 1980, provides that the Notice requiring hearing may state the portions of each term or condition in the approval in respect of which the hearing is required and the grounds on which you intend to rely at the hearing. This Notice shall be served upon:

The Secretary,
Environmental Appeal Board
112 St. Clair Avenue West
Suite 502
Toronto, Ontario
M4V 1N3

AND

The Director,
under the Pesticides Act
Ministry of the Environment
Hazardous Contaminants Branch
135 St. Clair Avenue West
Toronto, Ontario
M4V 1P5

Director,
Section 7(1), Pesticides Act

WM/lg

April, 1992

name
address
town
postal code

Dear name:

Permission is hereby granted under the Pesticides Act and the Regulation to perform extermination(s) from an airborne machine in accordance with conditions detailed in the application subject to the amendments which have been added.

The permit application and corresponding permit number(s)

number
number

number
number

are subject to the following amendments.

1. All pesticide applications will be made in accordance to Ministry of the Environment (MOE) guidelines for buffer zones for the aerial application of pesticides in Crown forests of Ontario (see attached chart, dated February, 1992).
2. Notify MOE Regional/District pesticides officer when spray operations commence in the area.
3. Submit a summary report to MOE within three months following conclusion of the spray program (see attached "aerial application summary spray report" for details required in the final spray report).
4. Notify MOE Regional/District pesticides officer of the name and licence number of the operator and exterminator who will perform the extermination, prior to performing the extermination.

5. Permit holder must provide a copy of the permit and amendments to the licenced exterminator prior to performing the extermination.
6. Notify MOE Regional/District pesticides officer prior to performing the additional application of pesticide which may be required due to adverse weather conditions or biological criteria, and provide reason for the additional pesticide application, the location of treatment, and the treatment period.
 - * Please note that for conifer release/tending only one application of herbicide will be approved per permit number. For site preparation no more than two pesticide applications will be approved per permit number. If additional spray applications will be required, a new permit application must be submitted for approval to the Regional/District pesticides control officer prior to the extermination.
7. The application of pesticides will be made in accordance to the project description and letter supplied by _____ with the MOE permit.
8. Permit holder must provide, to MOE Regional/District pesticides officer, the Pest Control Products Act Registration number (PCP #) and the trade name of the pesticide to be used in this permit application prior to performing the extermination.
9. Permit number LA _____ for the rate of application of _____ is amended to reflect pesticide label directions. The recommended rate of application ranges from _____ to _____.
10. The rate of application for the requested pesticide must be in accordance with pesticide label directions.

Under Section 13(9) of the Pesticides Act, as amended in 1989 you may make a submission in writing to the Director, objecting to the conditions of the permit and upon what grounds the Director should reconsider and vary, rescind or confirm the decision regarding the permit.

Further, you may, by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, request a hearing by the Board. Section 13(10) of the Pesticides Act, R.S.O. 1980, provides that the Notice requiring hearing may state the portions of each term or condition in the approval in respect of which the hearing is required and the grounds on which you intend to rely at the hearing. This Notice shall be served upon:

The Secretary,
Environmental Appeal Board
112 St. Clair Avenue West
Suite 502
Toronto, Ontario
M4V 1N3

AND

The Director,
under the Pesticides Act
Ministry of the Environment
Hazardous Contaminants Branch
135 St. Clair Avenue West
Toronto, Ontario
M4V 1P5

Director,
Section 7(1), Pesticides Act

WM/lg

April, 1992

name
address
town
postal code

Dear name:

Permission is hereby granted under the Pesticides Act and the Regulation to purchase and use a pesticide in accordance with conditions detailed in the application and subject to the amendments which have been added.

The permit application and corresponding permit number(s)

number
number

number
number

are subject to the following amendments.

1. All herbicide applications will be made in accordance to Ministry of the Environment (MOE) guidelines for picloram use. See Guidelines for Purchase and Use Permits (Land Applications).
2. Notify MOE Regional/District pesticides officer when spray operations commence in the area.
3. Submit a summary report to MOE within three months following conclusion of the spray programme (see the last page of "Guidelines for Purchase and Use Permits (Land Application)" for the specific information required).
4. Notify MOE Regional/District pesticides officer of the name and licence number of the operator/exterminator who will perform the extermination, prior to performing the extermination.

5. Permit holder must provide a copy of the permit and amendments to the licenced exterminator prior to performing the extermination.
6. All herbicide applications will be made according to the conditions outlined in the letter dated _____ from _____ to the Ministry of the Environment.
7. The treatment period, on the permit, is amended to reflect the TORDON 101 label directions whereby broadleaved weed control should only be performed in spring and early summer after growth appears. The amended treatment period does not apply to woody plant control.
8. To reflect TORDON 101 label directions, foliage applications are not advised where soils are very permeable and which also have a shallow aquifer, or soils containing sinkholes over limestone bedrock, or surfaces composed of severely fractured rock, or unconsolidated gravels and underlaid with an aquifer.
9. The concentration of picloram, on the permit, is amended to 65 gm/L from 60 gm/L to reflect TORDON 101 product label use.
10. Rates of application for the requested pesticide must be in accordance with pesticide label directions.

Under Section 13(9) of the Pesticides Act, as amended in 1989 you may make a submission in writing to the Director, objecting to the conditions of the permit and upon what grounds the Director should reconsider and vary, rescind or confirm the decision regarding the permit.

Further, you may, by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, request a hearing by the Board. Section 13(10) of the Pesticides Act, R.S.O. 1980, provides that the Notice requiring hearing may state the portions of each term or condition in the approval in respect of which the hearing is required and the grounds on which you intend to rely at the hearing. This Notice shall be served upon:

The Secretary,
Environmental Appeal Board
112 St. Clair Avenue West
Suite 502
Toronto, Ontario
M4V 1N3

AND

The Director,
under the Pesticides Act
Ministry of the Environment
Hazardous Contaminants Branch
135 St. Clair Avenue West
Toronto, Ontario
M4V 1P5

Director,
Section 7(1), Pesticides Act

WM/lg

Attention:

Amendments to Permit for Aerial Extermination(s) - Monitor 4.8EC

Permit Numbers:

LA	-	- 92
LA	-	- 92
LA	-	- 92
LA	-	- 92

1. The applicant for the permit, if not the licensed exterminator (pilot) who will apply the pesticide, must provide the pilot with a copy of this permit, this amendment sheet and a map showing the treatment area(s), at least 24 hours before the proposed commencement of the spray project(s).
2. The pilot must maintain a buffer zone sufficient to protect Areas Requiring Protection as defined in the "Guideline to Reduce the Migration of Chemical Contaminants and to Prevent Deposition of Pesticides During the Aerial Application of Pesticides to Agricultural Land", and specifically as designated below.

On permit # LA - - 92, the following area(s) must be protected: Maintain a 100m buffer zone around the homes on and side of spray area in Lot , Conc. . Do not spray water.

On permit # LA - - 92, the following area(s) must be protected: Maintain a 100m buffer zone around the homes on ., and side of spray area in Lot , Conc. . Do not spray water.

On permit # LA - - 92, the following area(s) must be protected. Maintain a 100m buffer zone around homes on S. and S.E. side of spray area in Lot , Conc. . Do not spray water.



On permit # LA - - 92, the following area(s) must be protected. Maintain a 100 m buffer zone around homes in . and . side of spray area in Lot , Conc. . Do not spray water.

3. The applicant must notify all adjacent residences of the intent to perform the extermination(s), no later than 24 hours proceeding the commencement of the extermination(s).
4. The pilot must notify the Spills Action Centre (1-800-268-6060) immediately, regarding any spills or upset that arise as a result of the extermination(s).

Under Section 13(9) of the Pesticides Act (RSO 1980) you may make a submission in writing to the Director, objecting to the conditions of the permit and upon what grounds the Director should reconsider and vary, rescind or confirm the decision regarding the permit.

Further, you may, by written notice served upon the Director and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 13(10) of the Pesticide Act, as amended in 1989, provides that the Notice requiring hearing may state the portions of each term or conditions in the approval in respect of which the hearing is required and the grounds on which you intend to rely at the hearing. This notice shall be served upon:

The Secretary
Environmental Appeal Board
112 St. Clair Avenue West
Suite 502
Toronto, Ontario
M4V 1N3

AND

The Director
Under the Pesticides Act
Ministry of the
Environment
135 St. Clair Avenue West
Toronto, Ontario
M4V 1P5

DATED at Toronto, Ontario this day of 1992.

Director
under the Pesticides Act

**AMENDMENTS TO PERMIT NUMBER SS-0-000-92
TO USE METHYL BROMIDE IN A SPACE FUMIGATION**

1. The Class 1 structural exterminator, _____, shall assure that the following sections of the Pesticides Act and Regulation 751 are carried out:

SECTIONS 34 (1) (a),(b) and (c) and the local Medical Officer of Health
 34 (2)
 34 (3) (a), (b), (c), (d) and (e)
 34 (4)
 34 (5)
 35
 37 (a) and (b)
 38 (1) (a) and (b)
 38 (2)
 38 (3)
 39 (1) (a), (b), (c) and (d)
 39 (2) (a) and (b)
 40
 41 (1) (a), (b) and (c)
 41 (2)
 41 (5) (a)
 105
 106
 107

2. Methyl bromide gas levels and temperature readings within the building must be monitored during the fumigation in accordance with the Ministry of the Environment Publication "Methyl Bromide Structural Fumigation Procedures". Monitoring data must be provided to both the Regional Pesticides Officer and the Director under the Act.
3. During the gas release, fumigation and aeration the levels of methyl bromide in the ambient air must not exceed 5 ppm at the fumigation boundary at any time nor exceed 1 ppm over a 30 minute average. The fumigation boundary is considered the point at which the public will have possible access. A sufficient number of guards must be posted to prevent unauthorized persons from accessing the property throughout the fumigation and aeration.

4. Those portions of the building not under fumigation **must** be vacated of all persons, padlocked and sealed from the fumigation area and air levels monitored prior to re-entry.
5. Aeration must utilize roof stack vents in the initial aeration procedure where possible.
6. Any re-entry into the building after the gas release or during initial aeration must be conducted by the Class 1 structural licensed person and appropriately licensed assistant wearing self-contained positive-pressure air units.
7. Weather conditions, inversions, and wind direction must be monitored and considered to ensure that proper aeration procedures are followed. Contact Environment Canada (416) 676-3066 for weather information.
8. Any changes to the fumigation procedures as cited in the permit can be made only by the Director under the Act, and can be facilitated by contacting the District Pesticides Officer ().
9. Under Section 13(10) of the Pesticides Act, as amended in 1989, you may make a submission in writing to the Director, objecting to the conditions of the permit and upon what grounds the Director should reconsider and vary, rescind or confirm the decision regarding the permit. Further, you may, by written notice served upon the Director and the Environmental Appeal Board, within 15 days after receipt of this Notice, request a hearing by the Board. Section 13(10) of the Pesticides Act, R.S.O. 1980, provides that the Notice requiring a hearing may state the portions of each term or condition in the approval in respect of which is required and grounds on which you intend to reply at the hearing. This Notice shall be served upon:

The Secretary,
Environmental Appeal Board
112 St Clair Ave. West
Suite 502
Toronto, Ontario
M4V 1N3

AND

The Director,
under the Pesticides Act
Ministry of the Environment
Hazardous Contaminants Branch
135 St. Clair Ave. West
Toronto, Ontario
M4V 1P5

DATE

DIRECTOR UNDER THE
PESTICIDES ACT

**AMENDMENTS TO PERMIT NUMBER SS-0-000-92
TO USE ALUMINUM PHOSPHIDE IN A SPACE FUMIGATION**

1. The Class 1 structural exterminator, _____, shall assure that the following sections of the Pesticides Act and Regulation 751 are carried out:

SECTIONS 34 (1) (a),(b) and (c)
 34 (2)
 34 (3) (a), (b), (c), (d) and (e)
 34 (4)
 34 (5)
 37 (a) and (b)
 38 (1) (a) and (b)
 38 (2)
 38 (3)
 39 (1) (a), (b), (c) and (d)
 39 (2) (a) and (b)
 40
 41 (1) (a), (b) and (c)
 41 (4)
 41 (5) (c)
 105
 106
 107

2. Phosphine gas levels and temperature readings within the building must be monitored during the fumigation in accordance with the Ministry of the Environment Publication "Aluminum Phosphide Structural Fumigation Procedures". Phosphine gas levels, during the fumigation and aeration, must not exceed 0.3 ppm at the property line nor exceed 0.021 ppm over a 30 minute average. The monitoring data must be provided to both the Regional Pesticides Officer and the Director under the Act.
3. Those portions of the building not under fumigation must be vacated of all persons, padlocked and sealed from the fumigation area.

4. Re-entry into the building after the initial gas release or during initial aeration must be conducted by the Class 1 structural licensed person and appropriately licensed assistant wearing self-contained positive-pressure air units.
5. Weather conditions, inversions, and wind direction must be monitored to ensure that proper aeration procedures, as submitted with the permit application, are followed.
6. Any changes to the fumigation procedures as cited in the permit can be made only by the Director under the Act, and can be facilitated by contacting the District Pesticides Officer ().
7. Under Section 13(10) of the Pesticides Act, as amended in 1989, you may make a submission in writing to the Director, objecting to the conditions of this permit and upon what grounds the Director should reconsider and vary, rescind or confirm the decision regarding the permit. Further, you may, by written notice served upon the Director and Environmental Appeal Board, within 15 days after receipt of this Notice, request a hearing by the Board. Section 13(10) of the Pesticides Act, R.S.O. 1980, provides that the Notice requiring a hearing may state the portions of each term or condition in the approval in respect of which the hearing is required and the grounds on which you intend to reply at the hearing. This Notice shall be served upon:

The Secretary,
Environmental Appeal Board
112 St. Clair Ave. West
Suite 502
Toronto, Ontario
M4V 1N3

AND

The Director,
under the Pesticides Act
Ministry of the Environment
Hazardous Contaminants Branch
135 St. Clair Ave. West
Toronto, Ontario
M4V 1P5

DATE

DIRECTOR UNDER THE
PESTICIDES ACT

Date

Address

Dear Applicant:

You are hereby notified that a Permit to Purchase a Pesticide and/or Perform a Water Extermination No. _____ has been issued to you subject to the conditions outlined herein.

(Insert)

Pesticide Product: _____

Treatment Area: _____

Rate: _____

Quantity to be used: _____

Quantity to be purchased: _____

(Insert)

Under Section 13(9) of the Pesticides Act (RSO 1980) you may make a submission in writing to the Director, objecting to the conditions of the permit and upon what grounds the Director should reconsider and vary, rescind or confirm the decision regarding the permit.

Further, you may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 13(10) of the Pesticides Act, as amended in 1989, provides that the Notice requiring hearing may state the portions of each term or condition in the approval in respect of which the hearing is required and the grounds on which you intend to rely at the hearing.

This Notice shall be served upon:

The Secretary,
Environmental Appeal Board
112 St. Clair Avenue West
Suite 502
Toronto, Ontario
M4V 1N3

AND

The Director
Under the Pesticides Act
Ministry of the Environment
Hazardous Contaminants Branch
135 St. Clair Avenue West
Toronto, Ontario M4V 1P5

DATED at Toronto this _____ day of _____ 1992.

Director,
Section 7(2), Pesticides Act

AQUATIC HERBICIDE PERMIT APPLICATION AMENDMENTS

1.

All adjacent owners, lessees or organizations must be notified a minimum of 48 hours prior to the commencement of the treatment. This notification would include information regarding the treatment and the restrictions on water use imposed by the pesticide label.

2.

The permit holder must provide a copy of this permit, and its amendments to the person(s) performing the application prior to the commencement of the treatment.

3.

Immediately PRIOR TO TREATMENT of public or common use areas with **Reglone A**, signs must be erected adjacent to the water body to be treated, which sufficiently warn the public against using the water for swimming, or human or animal consumption for one day and irrigation for five days. These signs shall remain in place until these specified times have elapsed. It is the responsibility of the applicant to ensure that these signs are removed by the sixth day following treatment.

4.

You are authorized to perform one treatment only.

5.

You are authorized to perform _____ treatments with the pesticide _____.

6.

Fish taken from water treated with **Simadex 80W** or **Princep Nine-T** may not be used for human consumption.

7.

Immediately PRIOR TO TREATMENT with **Simadex 80W** or **Princep Nine-T**, outflow from the pond must be closed off and remain closed for at least 10 days following the treatment.

8.

The pesticide label for **Aqua-Kleen** specifies that this product cannot be used within one kilometre of a water intake. As the condition cannot be met in this situation, permission to use an alternate product is hereby authorized as follows:

9.

Immediately PRIOR TO TREATMENT of public or common use areas with Aqua-Kleen, signs must be erected adjacent to the water body to be treated, which sufficiently warn the public against using the water for human or animal consumption and irrigation for twenty-one days. These signs shall remain in place until these specified times have elapsed. It is the responsibility of the applicant to ensure that these signs are removed by the twenty-second day following treatment.

Dear Applicant:

You are hereby notified that a Permit to Purchase a Pesticide and/or Perform a Water Extermination No. _____ has been issued to you subject to the conditions outlined herein.

Pesticide Product: _____

Quantity to be used: _____

Quantity to be purchased: _____

_____ and _____ must comply with all the terms and conditions set out in the attached MOE document entitled "Notification Criteria for Mosquito Larviciding Treatment Program", March 13, 1992.

Under Section 13(9) of the Pesticides Act (RSO 1980) you may make a submission in writing to the Director, objecting to the conditions of the permit and upon what grounds the Director should reconsider and vary, rescind or confirm the decision regarding the permit.

Further, you may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 13(10) of the Pesticides Act, as amended in 1989, provides that the Notice requiring hearing may state the portions of each term or condition in the approval in respect of which the hearing is required and the grounds on which you intend to rely at the hearing.

This Notice shall be served upon:

The Secretary,
Environmental Appeal Board
112 St. Clair Avenue West
Suite 502
Toronto, Ontario
M4V 1N3

AND

The Director
Under the Pesticides Act
Ministry of the Environment
Hazardous Contaminants Branch
135 St. Clair Avenue West
Toronto, Ontario M4V 1P5

DATED at _____ this _____ day of _____ 1992.

Director,
under the Pesticides Act



Ontario

Ministry
of the
Environment

Ministère
de
l'Environnement

135 St. Clair Avenue West
Suite 100
Toronto, Ontario
M4V 1P5

135, avenue St. Clair ouest
Bureau 100
Toronto (Ontario)
M4V 1P5

PERMIT NO. _____

1. Permission is given to use Bayluscide 5% G, Sea Lamprey Larvicide, PCP #10,841.
2. At least 24 hours PRIOR TO TREATMENT, notify all affected MOE and MNR District Offices and downstream water users of the exact date and time of treatment.
3. Submit a follow-up report to MOE Toronto within 3 months of treatment.
4. The rate of application for the requested pesticide must be in accordance with pesticide label directions.

Under Section 13(9) of the Pesticides Act (RSO 1980) you may make a submission in writing to the Director, objecting to the conditions of the permit and upon what grounds the Director should reconsider and vary, rescind or confirm the decision regarding the permit.

Further, you may, by written notice served upon the Director and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 13(10) of the Pesticides Act, as amended in 1989, provides that the Notice requiring hearing may state the portions of each term or condition in the approval in respect of which the hearing is required and the grounds on which you intend to rely at the hearing.

This Notice shall be served upon:

The Secretary
Environmental Appeal Board
112 St. Clair Avenue West AND
Suite 502
Toronto, Ontario
M4V 1N3

The Director
Under the Pesticides Act
Ministry of the
Environment
Hazardous Contaminants
135 St. Clair Avenue West
Toronto, Ontario
M4V 1P5

DATED at Toronto, Ontario this day of 1992.

Director
under the Pesticides Act



APPENDIX IV

AERIAL APPLICATION SUMMARY SPRAY REPORTS

A Summary Report must be submitted to the appropriate District or Regional Office of the Ontario Ministry of the Environment within three months of the conclusion of an aerial forestry pesticide spray program for all permits issued, including those for which the spray program was cancelled.

For the individual permits please fill in the form found on the reverse with the following information:

1. The permit number(s).
2. The name of the Township or the Base Map number.
3. Universal Transfer Mercator (UTM) (use the most North - Easterly coordinates of the spray block).
4. The name of the pesticide used (trade name, and P.C.P. Act registration number).
5. Pesticide use (i.e., conifer release, tending, site preparation, forest protection (insect control)).
6. The concentration of the active ingredient (a.i.).
7. The number of applications.
8. The treatment period.
9. The number of hectares sprayed.
10. Total application volume per hectare (carrier and product).
11. The total volume (litres) of the product applied.
12. The name of the spray pilot(s) and applicator licence number(s).
13. Aircraft type (i.e., helicopter, fixed wing) and registration number.

In addition to the above, please provide the following information on the spray program in the covering letter:

1. The name, address and licence number of the spray company(s) which performed the aerial applications and the names and licence numbers of all spray pilots.

2. The amount of pesticide remaining at the conclusion of the spray program and its storage location.
3. The number of empty pesticide containers remaining at the conclusion of the spray program and the exact location of their disposal site(s) (township, lot and concession) or storage site(s).
4. Details of any environmental problems associated with the treatment (e.g., spills, accidents, etc.).
5. The name, address and telephone number of the author of the report.

SUMMARY SPRAY REPORT - AERIAL FORESTRY APPLICATION

1. Permit Number	2. TWP. or B.M. #	3. UTM	4. Pesticide (PCP #)	5. Pesticide Use	6. Conc'n. of a.i.	7. No. of appl'n.	8. Spray period	9. Total hectares sprayed	10. Total appl'n. volume per ha	11. Total litres product used	12. Pilot and licence number	13. Aircraft type and reg. no.

NOTE: Information must be completed for each individual permit. Do not combine reports.

ONTARIO MINISTRY OF THE ENVIRONMENT
BUFFER ZONE GUIDELINES FOR AERIAL APPLICATION OF PESTICIDES IN CROWN
FORESTS OF ONTARIO

February, 1992

The following distances constitute minimum buffer zones recommended for aerial spray programs in Ontario Crown forests for the purpose of foliage protection and/or forest renewal.

A buffer zone is defined as an area that is not assumed to be pesticide free, but rather an area which is not directly sprayed as part of the target area with pesticides, and where minimal spray deposits may fall as a result of adjacent spray operations. It is designed to prevent the deposition of spray materials onto Areas Requiring Protection. Further, any residues that enter the buffer zone must not cause unacceptable phytotoxic (eg. plant damage) or zootoxic (eg. wildlife poisoning) damage in the buffer zone. The buffer zone must not occupy any part of an Area Requiring Protection.

Increased buffer zones may be considered in specific situations such as communal and municipal water supplies, registered beeyards, and terrestrially sensitive areas.

Traffic control is required on public roads adjacent to treatment areas during the period of application.

It will be the Ministry of Natural Resource's (MNR) responsibility to identify and indicate all areas requiring protection in the project description for each spray program, in particular lakes which possess or may possess fisheries values.

DESIGNATED AREAS**	HERBICIDES ¹	OTHER THAN HERBICIDES ²	<u>BACILLUS THURINGIENSIS</u> (Bt)
SIGNIFICANT AREA***	60 metres ^{1a}	120 metres	no buffer zones
SENSITIVE AREAS ³	120 metres	240 metres	no buffer zones
HUMAN HABITATION ⁴	120 metres	240 metres	no buffer zones

** See Appendix 1 for descriptions of some Designated Areas.

See Appendix 2 for definitions of some Areas Requiring Protection.

*** In locations where critical fish habitat is likely to occur, and where survey data have not yet been collected, those areas should be treated as sensitive i.e. buffer increased to 120m.

1 2,4-D, glyphosate, hexazinone (see footnote 1a).

1a Hexazinone - SIGNIFICANT AREA: 100 metre buffer.

Velpar L, P.C.P. #18197, can be aerially applied for site preparation in woodland management. A "site" is defined as an area that constitutes a continuous monoculture (i.e. all site preparation) without break in cultural practice or management stage. Within such a continuous stage, a maximum of 500 ha can be treated under the Woodland Management category. Furthermore, a continuous site of 10,000 ha, for example, cannot be divided arbitrarily into several blocks of 500 ha to be treated individually.

2 Aminocarb, fenitrothion, carbaryl.

3 Existing Ministry of Natural Resources guidelines re: noise and disturbance around endangered or sensitive species habitats (e.g. eagle nests) will be adhered to.

4 Written notification of Crown Land spraying programs is required.

NOTE:

These buffer zones distances were developed in consultation with the Ontario Ministry of Natural Resources and in keeping with timber management practices occurring both in northern and southern Ontario, as well as the Timber Management Guidelines for the Protection of Fish Habitat (MNR) and its associated policy. These MOE guidelines apply to aerial pesticide spraying on Crown land only and should not be confused with buffer zones required for other timber management practices, such as harvesting operations.

SIGNIFICANT AREA is defined as: lakes with surface area equal to or greater than 10 hectares which have permanent surface drainage to a lake or river system; lakes less than 10 hectares which possess or may possess significant fisheries values (fisheries value is determined by MNR fisheries biologist); streams which appear as permanent streams on a topographic map of scale 1:50,000

SENSITIVE AREA is defined as: critical fish habitat e.g. spawning areas, wetlands, headwaters, migration areas, nursery areas, intermittent streams that provide spawning habitat for fish; fish sanctuaries; fish hatcheries; stocked lakes and rivers; endangered species habitat; patented land (reduction of buffer zones may be considered with written notification to the owner).

HUMAN HABITATION is defined as: permanent and/or occupied: homes, cottages, logging camps, development areas in provincial parks; (reduction of buffer zones may be considered with written notification to the owner; in the case of provincial parks, written notification to campers is required).

Note: For further information or clarification of these guidelines please contact MOE Regional or District Pesticide Officers (see attached list of names) OR the Pesticides Unit, Hazardous Contaminants Branch, Toronto, Ontario.

**CRITICAL FISH
HABITAT:**

is habitat judged to be of critical importance to the maintenance of a healthy fish population (includes: migration areas; nursery areas; and spawning areas).

WETLANDS:

are lands that are seasonally or permanently covered by shallow water as well as lands where the water table is close to, or at the surface; in either case the presence of abundant water has caused the formation of hydric soils, and has favoured the dominance of either hydrophytic or water tolerant plants. The general term, wetlands, includes specific land types that are known as marshes, bogs, swamps, fens, etc.

HEADWATER AREA:

is the area starting at the lake highest up in the watershed which requires protection under the guidelines (either greater than 10 ha or with a known fisheries value) and continues up each inflow to this lake until the top of the stream occurs, or there is a wetland, lake, or beaver pond with significant retention capacity.

FISH SANCTUARY:

is a waterbody (or a portion of a waterbody) in which fishing for all species is prohibited for a specified period of time and is identified in the annual Ontario Sport Fishing Regulations, which is published by MNR.

FISH HATCHERY:

is a designated area of fish rearing.

**ENDANGERED SPECIES
HABITAT:**

is the sum total of environmental conditions of a specific place occupied or potentially occupied by an endangered species (as designated in Regulations of the Ontario Endangered Species Act) or a population of such species.

PATENTED LANDS:

are defined as lands whereby the title is registered at the Land Registry Office and where the title was transferred from the Crown to another party, such as a mining claim, some cottage lands or veteran land grants.

* This list is not a complete list outlining the Areas Requiring Protection but a partial list to provide clarification for some terms.

MINISTRY OF THE ENVIRONMENT
CRITERIA FOR OBTAINING A PERMIT
FOR OXYFLUORFEN (GOAL)

APRIL, 1992

INTRODUCTION

Oxyfluorfen (tradename Goal) is a selective herbicide used when broadleaf weeds are at the 2 to 4 leaf stage and are actively growing. It is registered only for weed control in onions (dry bulbs) and is effective on the following weeds: common purslane; redroot pigweed; cupped nightshade; wild buckwheat; lamb's-quarters; oak-leaved goosefoot; maple-leaved goosefoot.

FEDERAL GOVERNMENT MEASURES

Although the scientific data base on Goal is modern, the safety studies relative to users and spray operators are still not complete. As a result, the product has been granted a restricted class registration until the end of 1992.

PROVINCIAL GOVERNMENT MEASURES

The Ministry of the Environment has classified PCP #18777 Goal Emulsifiable Concentrate Herbicide as a Schedule 1 pesticide in accordance with the Pesticides Act. A permit will be required for its use.

ALLOWED USES

Permits for Goal will be issued only to onion growers, custom sprayers and/or holders of Land Class 6 Exterminator Licences provided they demonstrate their familiarity with the safety precautions and first aid requirements on the product label.

CRITERIA FOR OBTAINING PERMITS

1. Growers must complete a Ministry of the Environment permit application (Form 10).
2. Permits will be issued to growers for the 1992 season only.
3. Only holders of approved permits will be allowed to purchase and use the herbicide. A permit is required for each grower operation; however, if several people will be applying the chemical, all must co-sign the permit.
4. All approved permits will carry the following amendment:

"Commercial Onion Grower - Advised of Safety Precautions".

5. The user will:
- read the label before opening the container and follow all precautions and directions;
 - possess and use the necessary protective equipment in accordance with the label;
 - ensure that neoprene or rubber gloves and a respirator will be used during mixing and loading;
 - ensure that gloves and appropriate clothing (long sleeved shirt, trousers) are worn during application of the pesticide;
 - allow a two-day interval before re-entry to a treated field;
 - refrain from eating, drinking or smoking during work;
 - after work, change clothing and wash entire body thoroughly;
 - launder contaminated work clothing before reuse;
 - not allow women of childbearing age to mix, handle or apply the product, or enter treated areas until 6 days after application;
 - ensure that people entering treated fields after the two-day interval and up to 6 days following application, wear long trousers, long-sleeved shirts or jackets of tightly woven material along with boots high enough to cover ankles.
6. No application to be made within 56 days of harvest.
7. Purchasers will be limited to 2-1/2 litres of product per hectare of crop.
8. A minimum buffer of 15 metres width from the target area must be left around lakes and other waterways.
9. The user must have successfully completed a training program for the pesticide.
10. Aerial application of Goal is not permitted.
11. Permits consist of 4 copies, and when approved, two copies will go to the grower and two copies will be retained by the Ministry of the Environment.
12. The grower must retain the permit form intact and present it to the vendor each time he wishes to purchase Goal. The vendor will record the quantity purchased and other relevant information on the form and return the permit to the grower. In this way, the grower is not restricted to one vendor and does not have to buy the total quantity of herbicide at one time.

NOTE: Vendors will be allowed to sell Goal only to growers with approved permits.

13. At the end of the season, growers will retain the original copy of the permit for their records. The second copy must be forwarded to:

Hazardous Contaminants Branch
Ministry of the Environment
135 St. Clair Avenue West
Toronto, Ontario
M4V 1P5.

NUMBER: 40-01-27
REVISED: July 1991
PRINTED: July 1991

FLUAZIFOP-BUTYL
(FUSILADE)

Introduction

Fluazifop-butyl (tradename Fusilade) is a systemic herbicide used in the control of annual and perennial grasses in a wide range of broadleaf crops. See product label for details.

Federal Registration Status

Agriculture Canada has fully registered the product, (P.C.P. No. 18013, Fusilade 250 EC Herbicide) but REQUIRES THAT THE PRODUCT CARRY A SPECIAL WARNING LABEL BECAUSE THE ACTIVE INGREDIENT IN FUSILADE 250 EC CAN PRODUCE BIRTH DEFECTS AND OTHER ADVERSE EFFECTS IN LABORATORY RATS. THIS WARNING IS DIRECTED SPECIFICALLY TO WOMEN CAPABLE OF BEARING CHILDREN.

Agriculture Canada has, in its Discussion Document 88-01, indicated that the hazard can be reduced by persons wearing fully protective clothing. Such clothing should be in excellent condition and properly cleaned after each use.

Bearing in mind the special label warning, the information provided in the Federal Discussion Document, and the statements in this fact sheet, FARMERS AND LICENSED APPLICATORS SHOULD INSIST THAT ALL WOMEN ASSISTANTS AND FARM WORKERS, TEMPORARY AND FULLTIME, SHOULD AVOID HANDLING, APPLYING, AND DISPOSING SPRAY CONCENTRATE AND EQUIPMENT RINSINGS; AND ALL WORKERS WHO DO WORK WITH FUSILADE, TAKE ALL PRECAUTIONS AS DESCRIBED ON THE PRODUCT LABEL AND IN THIS FACT SHEET.

Provincial Scheduling

The Ministry of the Environment has recently classified the product as a schedule 5 pesticide, available to certified agriculturists and holders of a Class 10 exterminator licence, endorsed for use of Fusilade. A certified agriculturist is a person using farmland for agriculture or forestry production.

Conditions of Sale

The product may be sold in Ontario by retail class 1 vendors. It will be sold with a pair of protective, gauntlet gloves with each container.

USE PRECAUTIONS

1. Harmful if swallowed. Causes eye and severe skin irritation. Failure to follow the directions may cause a health hazard.
2. All users must follow all handling precautions, use directions, and cleanup procedures noted on the label.
3. Wear coveralls, boots, and PVC (liquid proof) gloves and safety goggles when spraying, or when adjusting, repairing, or cleaning equipment.
4. Wear coveralls, boots and PVC (liquid proof) gloves and safety goggles when handling the concentrate.
5. AVOID SPRAY MIST BY STANDING UP WIND FROM THE SPRAY AND/OR BY WEARING A SUITABLE MASK OR RESPIRATOR. WASH THOROUGHLY WITH SOAP AND WATER AFTER HANDLING AND BEFORE EATING OR SMOKING. REMOVE CONTAMINATED CLOTHING AND WASH BEFORE RE-USE.
6. USE PVC GLOVES SUPPLIED WITH THE PRODUCT AND DISPOSE OF IF DAMAGED. DISPOSE OF GLOVES IMMEDIATELY IF CONTAMINATED ON THE INSIDE. WASH HAND THOROUGHLY WITH SOAP AND WATER BEFORE USING A NEW PAIR OF GLOVES.
7. Be sure sprayer tank is clear of debris and all sprayer nozzles and screens are clean and clear of obstructions before loading the sprayer with FUSILADE to eliminate contamination of clothing and skin by the need to clear blocked nozzles after spraying commences.
8. Avoid drift onto other crops and non-target areas. Corn, cereals and turf are highly susceptible to FUSILADE.
9. Do not apply by aircraft.
10. Do not apply within 15m of fish-bearing waters and wildlife habitats.
11. Seed only broadleaf crops listed on this label if it is necessary to reseed a crop within 60 days of applying FUSILADE.
12. Do not graze or harvest crops for forage or hay in the year of treatment.

The manufacturer has developed a TRAINING VIDEO on the safe use and handling of pesticides, with particular reference to the label warning and use precautions for fluazifop-butyl (Fusilade). This video is available directly through Chipman Inc. or through the retail vendor. INSIST ON SEEING IT!

MINISTRY OF THE ENVIRONMENT
CRITERIA FOR OBTAINING PERMITS
FOR TRIADIMEFON (BAYLETON)

APRIL, 1991

INTRODUCTION

Triadimefon (tradename Bayleton) is a fungicide used to control diseases such as powdery mildew and rusts. It is registered only for disease control in winter wheat.

FEDERAL GOVERNMENT MEASURES

The product Bayleton is recent in Canada but is already used in the U.S. and other countries. Although the database is modern, studies on the safety of Bayleton for users and spray operators are not complete. As a result, the product has been granted registration until the end of 1991.

PROVINCIAL GOVERNMENT MEASURES

The Ministry of the Environment has classified P.C.P. #18804 Bayleton Wettable Powder Fungicide as a Schedule 1 pesticide in accordance with the Pesticides Act. A permit will be required for its use.

ALLOWED USES

Permits for Bayleton will be issued only to agriculturists, custom sprayers and Class 5 Exterminators for disease control in hard red winter wheat and soft white winter wheat.

CRITERIA FOR OBTAINING PERMITS

1. Permits will be issued only to:
 - a) accredited Integrated Cereal Management (ICM) red winter wheat producers; or
 - b) upon proof of purchase of certified seed of hard red winter wheat varieties; or
 - c) upon verification of disease in soft white winter wheat by a representative of the Ontario Ministry of Agriculture & Food.
2. Permits will be issued to users, for the 1991 season only.
3. All approved permits will carry the following amendment:

"Hard red winter wheat grower or soft white winter wheat grower advised of safety precautions".

4. The user will:

- a) read the label before opening the container and follow all precautions and directions;
- b) possess and use the necessary protective equipment in accordance with the label;
- c) ensure that neoprene or rubber gloves and a respirator will be used during mixing and loading;
- d) ensure that gloves and appropriate clothing (long sleeved shirt, trousers) are worn during application of the pesticide;
- e) allow a two-day interval on re-entry to a treated field;
- f) refrain from eating, drinking or smoking during work;
- g) after work, change clothing and wash entire body thoroughly;
- h) launder contaminated work clothing before reuse.

5. No application to be made within 60 days of harvest.

6. Purchasers will be limited to 1.1 kg of product per hectare of crop.

7. A minimum buffer of 15 metres width from the target area must be left around lakes and other waterways.

8. The user must have successfully completed a training program for the pesticide.

9. Aerial application of Bayleton is not permitted.

10. Permits consist of 4 copies, and when approved, two copies will go to the user and two copies will be retained by the Ministry of the Environment.

11. The user must retain the permit form intact and present it to the vendor each time he wishes to purchase Bayleton. The vendor will record the quantity purchased and other relevant information on the form and return the permit to the user. In this way, the user is not restricted to one vendor and does not have to buy the total quantity of fungicide at one time.

NOTE: Vendors will be allowed to sell Bayleton only to users with approved permits.

12. At the end of the season, users will retain the original copy of the permit for their records. The second copy must be forwarded to:

Hazardous Contaminants Coordination Branch
Ministry of the Environment
135 St. Clair Avenue West
Toronto, Ontario M4V 1P5.
Attn: L. Poff

RIGHT-OF-WAY SUMMARY SPRAY REPORTS

A Summary Report must be submitted to the appropriate District or Regional Office of the Ontario Ministry of the Environment within three months of the conclusion of right-of-way pesticide spray programs which required permit approval. The following information should be included in the report.

For each individual permit:

1. The permit number.
2. The name of the pesticide used (trade name, and P.C.P. Act registration number).
3. The number of hectares treated. If the area corresponding to the permit was not treated, please indicate why.
4. The total volume (litres) of pesticide product applied.

For the spray program:

5. The name and address of the spray company(s) which performed the treatment and the names and licence numbers of all applicators.
6. The amount of pesticide remaining at the conclusion of the spray program and its storage location.
7. The number of empty pesticide containers remaining at the conclusion of the spray program and the exact location of their disposal site(s) (township, lot and concession) or storage site(s).
8. Details of any environmental problems associated with the treatment (e.g., spills, accidents, etc.).
9. Statement of success of the spray program.
10. The name, address and telephone number of the author of the report.

APPENDIX V

OFFICE WORKING SHEETS: AQUATIC PERMITS

Applicant's Name: _____

Permit Number: _____

1. Date received at field office: _____
2. Date MNR comments received : _____
3. Date sent to head office: _____
4. Date received at head office: _____
5. Number of properties to be treated: _____
6. Requested size of treatment area: (if multiple properties, attach additional sheet listing size of each treatment area)

_____	X	_____	X	_____	=	_____
Length		Width		Depth		Total Area/
(along shoreline)		(distance out		(if applicable)		Volume
		into lake)				

7. Authorized treatment area: (if different from above)

_____	X	_____	X	_____	=	_____
Length		Width		Depth		Total Area/
						Volume

8. CALCULATIONS and COMMENTS:

1990 PERMIT INFORMATION

Number: _____ Pesticide _____

Area: _____ ha Rate: _____ /ha

Amount: to use _____ to purchase _____

9. Name of Pesticide: _____
10. Application Rate: _____
11. Amount Required: _____
12. Amount of pesticide authorized for use: _____
13. Amount of pesticide authorized for purchase: _____
14. Amendment letter code: _____

APPENDIX VI

ONTARIO MINISTRY OF THE ENVIRONMENT
GUIDELINES FOR PURCHASE AND USE PERMITS
(Land Applications)

Regulation 751, Section 61(3) specifies that purchase and use permits are required for the application of fenoprop, 2,4,5-T, picloram and 4-amino pyridine. The majority of this report will deal with the herbicide picloram.

Products containing picloram are classified under Schedule 2 of Ontario Regulation 751. The use of Schedule 2 pesticide products is restricted to agriculturalists, licensed exterminators and custom applicators. Picloram products require annual use permits, approved by the Director, under the Pesticides Act. Each year, picloram is used for the control of woody and noxious broad-leaved weeds along rights-of-way for highways, power transmission lines and pipe and rail lines.

Picloram, being a relatively persistent (the half-life in soil is 12-18 months) and mobile herbicide that is quite soluble in water (430 mg/L), has been the subject of controversy on more than one occasion in the past number of years. Picloram's known properties, combined with media allegations associating picloram with carcinogenicity, have increased the awareness of this product in the minds of persons and groups who, for various reasons, rationalize that other methods of control should be considered.

The concerns that this herbicide have generated have often resulted in numerous problems and delays for both the applicator and the authorizing agency.

Past problems which have caused delays in authorizing use permits for picloram can generally be summarized as follows:

1. Inconsistencies of Ministry of the Environment assessment across the province;
2. Incomplete documentation by end users;
3. Applicator submission often too late for permit assessment;
4. Head Office and field processing often too slow; and
5. No specific person is responsible at the authorizing agency when problems arise.

The following guideline has been formulated in an effort to minimize inconsistencies of assessment and to suggest to local MOE staff and applicators the basic requirements for permit processing and approval.

Natural Surface Water

A natural surface water course is generally defined as a stream of water which flows along a defined channel, with bed and banks for sufficient time to give it substantial existence. Similarly, a permanent body of water may be defined as a body of water with defined bed and banks, and with substantial existence. It may or may not be flowing at any time.

A natural surface water course does not cease to be such if, at a certain point in time, it spreads out over a level area and flows for a distance without defined banks before flowing again in a defined channel.

Picloram, being a relatively mobile herbicide, requires caution in its application directly adjacent to water courses and permanent bodies of water. Many factors can influence the movement of picloram once applied. Factors such as the rate of application, type and density of vegetative cover, slope of the land, and time lapse between application and rainfall could affect its movement. Time to first rainfall, intensity, duration, and total amount of precipitation are the most significant factors affecting the loss of picloram from soil. Clearly, no two situations will ever be the same. Also, persons applying picloram do not necessarily have the same level of training or degree of competence. A standard guideline is therefore required. APPLICATIONS OF PICLORAM MUST NOT BE CONDUCTED WITHIN TEN METRES OF THE NEAREST POINT OF A NATURAL SURFACE WATER COURSE OR A PERMANENT BODY OF WATER. SLOPES OR SLOPING LAND MAY REQUIRE FURTHER SETBACKS. This buffer zone shall not apply to intermittent streams, provided that water is not flowing and significant rainfall is not anticipated, or for operations involving stump treatments only. For stump treatments, A BUFFER ZONE OF THREE METRES MUST BE MAINTAINED.

Natural surface water courses and intermittent streams are clearly defined on topographical maps (usually 1:50,000 or 1:250,000). It is for this reason that applicants will be requested TO SUBMIT A TOPOGRAPHICAL MAP WITH THE PERMIT APPLICATION. Topographical maps are readily available and provide concise drainage information.

Wildlife Concerns

The acute oral LD₅₀ of picloram indicates a low order of toxicity in animals tested. It would appear that picloram, following ingestion, is rapidly eliminated virtually unchanged. The herbicide, while having low mammalian toxicity, does exhibit strong phytotoxic properties. If this herbicide is used indiscriminately, habitat alteration or destruction could result. IT IS REQUIRED THAT CAUTION BE EXERCISED IN THE MANAGEMENT OF THE

HABITAT WHERE WILDLIFE LISTED IN THE APPENDIX OF THE ENDANGERED SPECIES ACT OR THE LIST OF SPECIES OF SPECIAL CONCERN ARE PRESENT. IN AREAS WHERE SPECIES FROM THE ABOVE MENTIONED LISTS ARE KNOWN TO EXIST, PERMIT RESTRICTIONS ARE IMPOSED. The applicant should contact the Conservation Authority with jurisdiction for further information on local sensitive areas of species of concern. Most Conservation Authorities will have detailed documentation of local Environmentally Sensitive Areas. Ministry of the Environment inspectors should also consult the local Conservation Authorities when making recommendations regarding these permits.

Mapping of Spray Areas

One of the major areas of concern for the Ministry of the Environment officials in assessing picloram use permits is the quality of maps and supporting information thereon being submitted with the application forms.

GENERALLY, TOPOGRAPHICAL MAPS (1:250,000) MUST BE SUBMITTED WITH THE APPLICATION. In those unusual situations where this type of map is deemed inappropriate (i.e. for Ontario Hydro, Northern Gas or Northern Telephone distribution lines in urban or some northern areas), a larger scale map, showing more detail, may be substituted.

Topographical maps show all permanent natural surface waters and intermittent water courses. It is imperative that the applicant and MOE be aware of these sites for completion of a successful spray program and adequate permit assessment.

A great deal of information can be placed on these maps by the applicant, drastically reducing supporting sheets that might otherwise be required.

SPECIFICALLY, THE FOLLOWING INFORMATION MUST BE INDICATED ON THE SUBMITTED MAPS:

1. THE EXACT SPRAY AREA MUST BE HIGHLIGHTED. However, certain "sensitive areas" that will not be treated, an indication of their presence, and a reason for not treating them must be included on the map.
2. If spraying is to take place on the shoulders or the median of a highway, AN INDICATION WHETHER ONE OR BOTH SIDES AND/OR THE MEDIAN WILL BE SPRAYED must also appear on the map and supporting documents. The width of the spray area may be indicated as either narrow (i.e. shoulder nozzle only), or wide (i.e. shoulder nozzles and boom).

Drinking Water Sources

Generally, wells are classified into two types - drilled (with watertight casings) or dug. Dug wells are usually visible above ground and rely on shallow aquifers for recharge. Drilled wells can be better constructed and rely on deeper aquifers for recharge. The Ontario Ministry of the Environment recommends that surface water not be used as a source of drinking water.

Scientific literature reports that picloram can move downward to a maximum depth of 60 cm in sandy soils, but exhibits little lateral movement. There are no Maximum Acceptable Concentrations for picloram established in the Ontario Drinking Water Objectives (revised 1983). Every effort should be made to prevent pesticide pollution of drinking water sources.

THEREFORE, IT IS REQUIRED THAT PICLORAM NOT BE APPLIED CLOSER THAN FIFTEEN METRES FROM ANY WELL. THIS IS A MINIMUM DISTANCE AND MUST BE INCREASED WHERE SPECIFIC SITE CONDITIONS DICTATE. For example, if the slope is towards the well, or if the soil around the well is sandy, the buffer area should be increased.

Livestock Grazing Areas

Often dairy and beef cattle graze along rights-of-way, where brush control is anticipated. Although cattle seem to be attracted to brush that has been sprayed with herbicides, the available literature indicates that there is little cause for concern regarding mammalian toxicity associated with these herbicides. "Metabolic and residue studies in several mammalian species, including cows and steers, have provided evidence that following ingestion, picloram is rapidly eliminated in the urine

essentially unchanged. No metabolites have been detected. In addition, the compound does not appear to any significant extent in animal tissues" (NRC. "Picloram: The Effects of Its Use on Environmental Quality". Page 62). Care should be exercised in handling manure from animals grazing on treated areas. THIS MANURE SHOULD NOT BE USED NEAR SUSCEPTIBLE PLANTS. Due to the attractiveness of sprayed plants to dairy cattle, and the concern for the potential contamination of milk, IT IS RECOMMENDED THAT THE FARMER BE NOTIFIED IN ADVANCE OF IMPENDING HERBICIDE APPLICATIONS ALONG GRAZED RIGHTS-OF-WAY.

Soil Type

The downward, upward and lateral movement of picloram in the soil profile is governed by the mass flow of water which serves as the carrier. Factors such as moisture content, humidity, water holding capacity, organic matter content, amount of precipitation and temperature are the major considerations in determining the persistence of picloram in soil. Volatilization from soil is negligible. Degradation is usually very slow in soils that are very wet. Generally, leaching (downward movement) occurs to a greater depth in sandy, light textured soils, and soils low in organic matter. Under heavy rainfall conditions, on light textured soils, low in organic matter, picloram has been shown to leach from 20 to 60 cm. Leaching also increases with rate of application. Picloram appears to have a greater tendency to move downward, as opposed to laterally, in the soil profile. IT IS THEREFORE RECOMMENDED THAT WHERE APPLICATIONS OF PICLORAM ARE IN LIGHT TEXTURED SOILS, LOW IN ORGANIC MATTER, AND WHERE THE WATER TABLE IS WITHIN AN AVERAGE OF 90 CM OF THE SURFACE, OTHER METHODS OF BRUSH CONTROL SHOULD BE CONSIDERED.

Other Considerations

The issue involving root grafting of various tree species is poorly understood. However, it has been established that trees which exhibit this trait are highly susceptible to herbicide damage when soil active herbicides are used adjacent to stands.

It appears that few species actually graft roots. In particular, Red Pine (and probably other conifers) are most likely to do this.

Another situation, however, is far more common. Many trees reproduce by suckering from horizontal roots. The effects of herbicide injury on these species are identical to those seen in species that root graft, because the trees are intimately connected by common roots. In particular, willow, poplar,

locust, and sometimes maple, basswood and elm may reproduce in this manner.

IT IS RECOMMENDED THAT WHERE RED PINE PLANTATIONS AND THE OTHER DESIRABLE SPECIES INDICATED ABOVE ARE PRESENT, A BUFFER ZONE BE MAINTAINED TO PROTECT THESE TREES. Generally, this distance can be determined by staying outside the drip line of the trees, unless circumstances dictate further setback.

Procedures for Permit Application

1. Completed permit applications are submitted to the Regional Pesticide Office at least 30 working days prior to the proposed spray date. The permit is date stamped, recorded, and assigned a permit number (Note: Incomplete applications will be returned to the applicant for revision).
2. Assessment of the permit application and recommendations are to be made by the District Pesticides Officer within 15 working days of receipt of the application.. Field inspections will not commence prior to mid-April. Note: preliminary approval may be granted prior to mid-April, but final approval of the permit may be delayed for certain sites that require special consideration or field inspection. Completed permit applications with the accompanying recommendations are to be forwarded to the signing authority for approval or refusal within these same 15 days.
3. The signing authority is required to assess each permit, attach amendments, and forward copies approved or refused to the applicant and the District Pesticides Officer within 7 working days of receipt.
4. A final written report must be submitted to the appropriate Regional or District Pesticides Officer by the applicant within three months of the conclusion of the spray programme, for every Right-of-Way permit issued. The following information should be included in the report:
 - a) the permit number
 - b) the trade name and P.C.P. number of the pesticide used
 - c) the area treated. If the area corresponding to the permit was not treated please indicate why
 - d) the total volume of the pesticide product applied
 - e) the name and address of the spray company(s) which performed the treatment, and the names and licence numbers of all applicators
 - f) the amount of pesticide remaining at the end of the spray programme and its storage location.
 - g) the number of empty pesticide containers remaining at the conclusion of the spray programme and the exact location of their disposal site(s) (township, lot, and concession)
 - h) details of any environmental problems associated with the treatment
 - i) statement of the success of the spray programme
 - j) the name, address, and telephone number of the author of the report



Ontario

Ministry
of the
Environment

Policy Approval Process Form

xx

DRAFT

POLICY/TITLE	PROTECTION OF ADJACENT AREAS DURING AERIAL APPLICATIONS OF PESTICIDES TO AGRICULTURAL CROPS	NO.
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Legislative Authority

the PESTICIDES ACT

Statement of Principles

This policy and its associated Guideline entitled "A Guideline to Reduce Migration Of Chemical Contaminants and to Prevent Deposition of Pesticides Onto Areas Requiring Protection During Aerial Application of Pesticides to Agricultural Land" establishes Areas Requiring Protection from adjacent agricultural aerial pesticides operations. In this context, definitions for buffer zones and Areas Requiring Protection from off target drift of pesticides have been developed. Many such Areas Requiring Protection have been identified and listed in the guideline. The policy confirms applicator (pilot) responsibility for establishing appropriate buffer zone distances to areas requiring protection.

This policy is written in support of the Pesticides Act, Section 4, which restricts the discharge of pesticides into the environment, such that human health and the natural environment are not adversely affected or likely to be adversely affected.

Originator:

Recommended by:

Director, Policy and Planning Branch

Recommended by:

Recommended by:

Director, Legal Services Branch

Executive Director, Corporate Resources Division

Recommended by:

Approved:

Deputy Minister

Division Head

Date:

Approved:

Minister

Effective Date:

POLICY APPLICATION

1.0 Within the Ministry of the Environment

The policy applies in all cases where pesticides are applied aerially to agricultural crops, and where the pesticides may have unacceptable phytotoxic, zootoxic or health impact on non-target organisms. This includes all applications authorized by pesticide label endorsements, exterminator licence endorsements, permit conditions and other endorsements.

2.0 Outside the Ministry of the Environment

The policy applies under the same conditions as for the Ministry of the Environment.

1. OBJECTIVES OF POLICY

The objective of the policy is to minimize the impact to humans and the natural environment from adjacent aerial pesticide applications.

2. SCOPE OF POLICY

This policy involves all aerial applications of pesticides to agricultural lands adjacent to Areas Requiring Protection, as defined in the referenced Guideline.

3. POLICY STATEMENT

It is the policy of the Ministry of the Environment to provide terms of reference for Areas Requiring Protection as determined by the Ministry of the Environment and as defined in the Guideline. In this regard, the Ministry of the Environment's mandate is to protect off-target organisms and the natural environment from the effects of the application of pesticides. It will remain the policy of the Ministry of the Environment that the aerial applicator will assume responsibility to prevent pesticides from reaching these Areas Requiring Protection. Furthermore, within the context of agricultural spraying, the Ministry of the Environment will not

impose numerically based setbacks to protect these areas. The use of numerically based buffer zones will continue in situations mandated by Environmental Assessment Act requirements (ie. forestry) or label restrictions. Since agricultural spray operations in Ontario involve small spray block sizes, high human contact potential, close proximity to identified Areas Requiring Protection and a diverse range of pesticides, determining setback distances that would apply in all situations would not be feasible. Rather it is the Ministry of the Environment's policy that it is the responsibility of the applicator to assess each situation individually to determine appropriate buffer zones to protect these areas.

4. POLICY
IMPLEMENTATION

The Policy and Guideline will be used by the aerial applicator in the determination of suitable setback distances in the aerial application of pesticides for the Areas Requiring Protection. The Ministry of the Environment will use the policy and Guideline in reviewing applications for legislated permits under the Pesticides Act, for recommendations to industry, government and other agencies in all related pesticide matters and in determining abatement and/or enforcement actions as a result of corresponding incidents involving pesticides.

POINT OF CONTACT

Regional Pesticides Officer
Southeast Region
Regional Operations

Regional Pesticides Officer
Central Region
Regional Operations

Supervisor, Pesticides Section
Hazardous Contaminants and Co-ordination
Branch

EFFECTIVE DATE
draft 91/10/28

DEFINITIONS

Buffer Zone

A buffer zone is defined as an area that is not assumed to be pesticide free, but rather an area which is not directly sprayed as part of the target area with pesticides, and where minimal spray deposits may fall as a result of adjacent spray operations. It is designed to prevent the deposition of spray materials onto Areas Requiring Protection. Further, any residues that enter the buffer zone must not cause unacceptable adverse phytotoxic (plant) or zootoxic (animal) damage in the buffer zone. The buffer zone must not occupy any part of an Area Requiring Protection as identified in this document and the associated guideline.

Areas Requiring Protection

Areas Requiring Protection are areas that could be negatively impacted by pesticides trespass from adjacent spray operations. These areas have herein been categorized as Environmental, Bystander Exposure, Agricultural and Water Supply Areas. Each of these broad categories is further subdivided into several subcategories with terms of reference and explanatory definitions. Due to diverse sensitivities, these areas must be protected from pesticide drift.

Agricultural Application

Agricultural application refers to the application of pesticides to areas engaged in the production of plants or animals or both on agricultural land in accordance with the definitions under the Pesticides Act and Regulation 751.

Pesticide Drift

Pesticide drift means the physical movement of pesticides through the air at the time of pesticide application or soon thereafter from the target site to any off-target site. Pesticide drift shall not include movement of pesticides to off-target sites caused by erosion, migration, or wind blown soil particles that occurs after the application unless specifically addressed on the pesticide product label with respect to drift control requirements.

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GUIDELINE

"A Guideline to Reduce the Migration of Chemical Contaminants and to Prevent Deposition of Pesticides onto Areas Requiring Protection During the Aerial Application of Pesticides to Agricultural Land"

PURPOSE: This guideline establishes Areas Requiring Protection and delineates applicator (Pilot) responsibility for the setting of appropriate buffer zones during the aerial application of pesticides to agricultural crops.

INTRODUCTION

This document acknowledges potential impact resulting from pesticide drift. These concerns are addressed legislatively by Section 4 of the Pesticides Act, which mandates the pesticide users to take appropriate precautions to ensure that the use of these chemical/biological agents will not cause or likely cause:

- 1) Impairment to the quality of the environment;
- 2) Injury or damage to property or to plant or animal life;
- 3) Harm or material discomfort to any person;
- 4) Adverse health effects to any person;
- 5) Impairment to any person's safety; and
- 6) Rendering plant or animal life or property unfit for use.

The Ministry of the Environment is charged with the responsibility of protecting the natural environment and bystanders in the Province of Ontario. In this regard the Ministry must determine that the pesticide application satisfies the requirements of the applicable legislation. Suitable enforcement or prosecutorial action will be considered in all cases where damage to a greater or lesser degree results from improper pesticide use.

Pesticide drift means the physical movement of pesticides through the air at the time of pesticide application or soon thereafter from the target site to any off-target site. Pesticide drift shall not include movement of pesticides to off-target sites caused by erosion, migration, or wind blown soil particles that occurs after the application unless specifically addressed on the pesticide product label with respect to drift control requirements.

IDENTIFIED AREAS REQUIRING PROTECTION DURING AERIAL PESTICIDE APPLICATION

An Area Requiring Protection is an area that could be negatively impacted by pesticide trespass from adjacent spray operations. These areas have herein been categorized as Environmental, Bystander Exposure, Agricultural and Water Supply Concerns. Due to diverse sensitivities, these areas must be protected from pesticide drift.

Under certain conditions drift onto an Area Requiring Protection can have serious implications. If bystanders are involved, one must consider health impacts as well as the damage or the impairment to the quality of property or the natural environment as a result of misapplication.

The following are identified Areas Requiring Protection although this is not an inclusive list.

A) Environmental Areas Requiring Protection

Surface water includes named, unnamed and numbered lakes, rivers and streams, fish-bearing waters and all permanent water bodies. Surface water is defined as a stream of water which flows along a defined channel, with bed and banks for sufficient time to give it measurable distance. Similarly, a permanent body of water is defined as a body of water, with defined bed and banks, and with substantial existence. It may or may not be flowing at any point in time. Either water course does not cease to exist if, at a certain point, it spreads out over a level area and flows for a distance without defined bed and banks before flowing again in a defined channel.

Endangered Species Habitat is the sum total of environmental conditions of a specific place occupied or potentially occupied by an endangered species (as designated in Regulations under the Ontario Endangered Species Act), or a population of such species.

Designated Lakes and Streams include all lakes, rivers and streams listed in the Gazetteer of Canada (Ontario) as well as any other waterbody considered by the Ministry of Natural Resources to be locally significant.

Wildlife Management Area is a geographic area which serves as a permanent land base for wildlife management. It is the basic unit for the development or implementation of wildlife plans, programs and proposals, including the establishment of hunting seasons and the collection of data. Wildlife Management Units are broadly based on ecosystems, the environmental requirements of principal species, the consideration of the suitability of boundaries to users, landowners, municipalities and other jurisdictions as well as the recognition of administrative requirements.

Wetlands are lands that are seasonally or permanently covered by shallow water as well as lands where the water table is close to, or at the surface. In either case the presence of abundant water has caused the formation of hydric soils, and has favoured the dominance of either hydrophytic or water tolerant plants. The general term wetlands includes specific land types that are known as marshes, bogs, swamps, fens, etc.

Fish Hatchery is a designated area of fish rearing.

Fish Sanctuary is a waterbody (or a portion of a waterbody) in which all fishing for all species is prohibited for a specified period of time and is identified in the annual MNR Fishing Summary.

Critical Fish Habitat is habitat judged to be of critical importance to the maintenance of a healthy fish population.

Bee yards include one or more hives, preferably registered with the Provincial Apiarist under the Ontario Ministry of Agriculture and Food reporting program. (Telephone number is 1-800-265-2958.)

B) Bystander Exposure Areas Requiring Protection

Urban/Rural/Cottage Areas are defined as residential areas constituting any continuously occupied single permanent structure or dwelling or structures or dwellings for human habitation. This includes cottage properties, but excludes short term tent and trailer sites, seasonal hunt camps and other municipally unregistered dwellings or structures.

Developed recreational areas includes camps, golf courses, playgrounds, athletic facilities and parks (federal, provincial, conservation authority and municipal).

Patented lands are defined as lands whereby the title is registered at the Land Registry Office and where the title was transferred from the Crown to another party, such as a mining claim, some cottage lands or veteran land grants.

Common institutions include schools, commercial industrial complexes, and adjacent grounds and outbuildings.

Aggregations of people include occupied commercial bus stops, rallies, field day sites, etc.

Major roads include paved county roads and provincial highways.

C) Agricultural Areas Requiring Protection

Sensitive crops are crops that may have their market value or utility impaired by pesticide contamination including organic farms, gardens and berry patches (cultivated and uncultivated or wild).

Livestock includes associated foraging sites and buildings, such as henhouses, and the surface or groundwater drinking supplies for livestock.

Greenhouses include attached and free standing structures.

Irrigation Water Sources include irrigation ponds and other water sources for irrigation.

D) Water Supply Areas Requiring Protection

Potable water includes all drinking water sources, such as private wells, reservoirs, communal wells, municipal water intakes and other bodies of water from which drinking water for animals or humans is taken.

Applicator (Pilot) Responsibility

PESTICIDE APPLICATION BY AIRCRAFT

The application of pesticides to crops must be done in such a manner that the product applied reaches the intended target. The pilot (applicator) must ensure that the pesticide being applied does not drift and result in insult to surrounding Areas Requiring Protection. The use of buffer zones (setback distances) offers one level of protection to non-target areas.

BUFFER ZONE DEFINITION

A buffer zone is defined as an area that is not assumed to be pesticide free, but rather an area which is not directly sprayed with pesticides, and where minimal spray deposits may fall as a result of adjacent spray operations. It is designed to prevent the deposition of spray materials onto Areas Requiring Protection. Further, any residues that enter the buffer zone must not cause unacceptable phytotoxic (plant) or zootoxic (animal) damage in the buffer zone. The buffer zone must not occupy any part of an Area Requiring Protection as identified in this document.

PILOT RESPONSIBILITIES REGARDING AREAS REQUIRING PROTECTION

The Province of Ontario, under the Pesticides Act holds the applicator (pilot) responsible when the pesticide or pesticide drift impacts non-target areas. Likewise, the requirement for ensuring that the Area Requiring Protection is protected remains the responsibility of the pilot. The Pesticides Act also holds the Operator responsible for the actions of employees.

Applicators should become familiar with the Areas Requiring Protection listed in these guidelines. Before spraying, pesticide applicators should survey the surrounding lands and prepare maps identifying Areas Requiring Protection from spray drift and present this information to the Ministry of Environment regional/district pesticides officer when required in a form similar to that described in Appendix #2.

RESPONSIBILITY FOR SETTING BUFFER ZONES for AERIAL APPLICATION

The task of setting appropriate numerically based buffer zone distances which would be applicable under varying conditions for all aerial spraying situations is not practical from a regulatory standpoint. A buffer zone distance that would protect the most sensitive receptor in the worst case scenario could result in

buffer zones that might hamper operational spray programs. Some legislative bodies have already established numerical buffers for certain agricultural situations. However, the scientific community

has generally determined that these numbers are unsupportable in this context. The degree of variability within the environmental and operational factors (see Appendix #1) involved, and the implications of political and sociological factors, negates the possibility of establishing a single number or numbers that can confidently be applied in all situations. To overcome the difficulty of setting different buffer zone widths to address the various use conditions encountered, the field expertise of the aerial pesticides applicator is acknowledged as a preferred means to establish appropriate set back distances from Areas Requiring Protection. For these reasons, the applicator must assess each situation on an individual basis. He/she must determine setback distances on a case by case basis after analyzing the applicable criteria relevant to the particular operation.

For the pilot to appropriately decide on buffer zones, he/she must have technical knowledge beyond simply flying the aircraft. The pilot must be aware of the following:

Environmental concerns in the lands surrounding the application area; and

The potential for off target movement of the applied pesticides using the equipment on hand and under all environmental and operational conditions.

SUMMARY

Field experience has shown extreme variation in the distance pesticides can drift during aerial applications. The pilot must take into account the skill as an applicator, knowledge about the pesticide and its physical and chemical characteristics, the spray equipment and the aircraft, environmental conditions, potential drift characteristics, and other variable factors, and choose a buffer zone that is adequate to protect the Areas Requiring Protection from pesticide drift.

In Ontario, buffer zone setbacks to protect sensitive adjacent areas are not prescribed by regulation. Under the existing aerial permit approval system, the Ministry of the Environment has the ability to impose restrictions to protect these Areas Requiring Protection from damage. In addition to the legislative vehicle, the use of the "buffer zone" policy and this Guideline will enable Ministry of Environment pesticides staff and applicators to safeguard these sites.

Where numerical buffer zones are already prescribed as a condition of a label registration or some other legislative requirement, applicators are required to follow these as minimum setbacks from the Area Requiring Protection.

The ultimate goal of the application must be to Reduce the Migration of Chemical Contaminants (RMCC) and to Prevent Deposition of Pesticides onto Areas Requiring Protection.

Appendix #1

OPERATIONAL FACTORS AFFECTING PESTICIDE DRIFT

It is well documented that many factors contribute to pesticide drift and it is essential that their interactions be understood to minimize off-target movement. Operational factors involved in pesticide drift can be divided into four categories:

1. Atmospheric conditions.
2. Mechanical factors.
3. Chemical factors.
4. Pilot capabilities.

ATMOSPHERIC CONDITIONS

Local atmospheric (meteorological, microclimatic) conditions can exert significant influence on spray droplets following release from the sprayer. The key meteorological factors affecting drift are temperature, wind, relative humidity, inversions and atmospheric stability.

MECHANICAL FACTORS

There are several mechanical factors that affect drift. The influence of these factors on droplet size is important. Some mechanical factors to consider include nozzle type and orientation, pressure, boom position, spray adjuvants, lapse time, airspeed, and droplet size.

CHEMICAL FACTORS

The nature and formulation of the pesticide product applied can affect drift. For example ester formulations are more volatile than amine formulations. Rate of application is affected by the viscosity and the amount of carrier added to the spray mixture. Drift control agents can sometimes be added to reduce off site movement.

All factors must be treated equally in the assessment by Ministry of the Environment pesticides staff and particularly by applicators prior to the commencement of spray programs. One cannot assume that any one factor is more important than another as they all must be dealt with in concert.

Appendix #1 (cont.)

PILOT CAPABILITIES

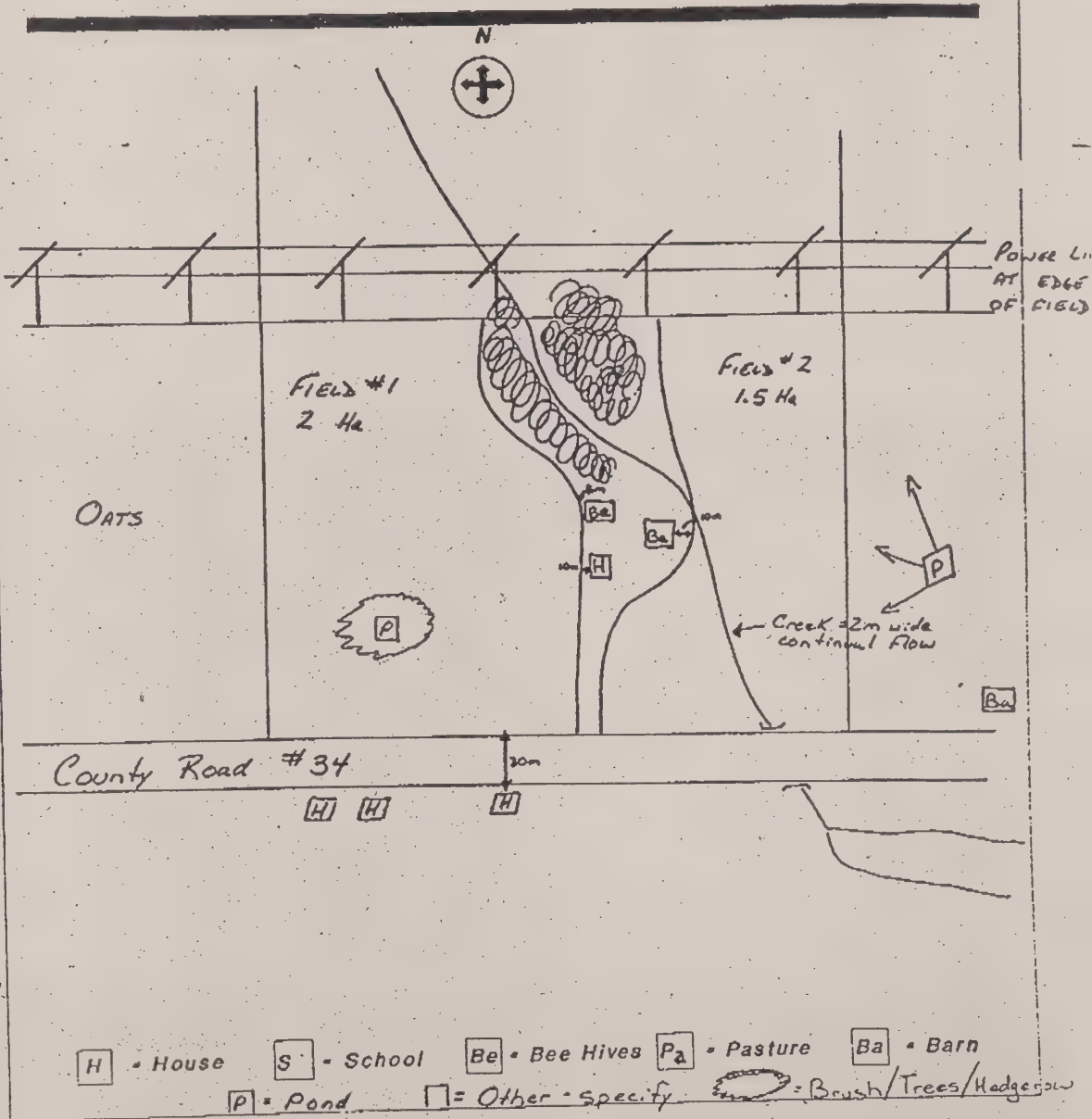
In addition to atmospheric and mechanical/chemical factors, the experience and the ability of the pilot to interpret these criteria with respect to the spray operation greatly influences the potential for pesticide drift.

Problems such as leaking nozzles or lines that will not shut off can create an unnecessary impact on the natural environment, applicators must ensure that the equipment is functioning correctly to ensure maximum environmental protection and proper application.

Additionally, many other peripheral issues must be handled during the planning phase of the program. Calibration of equipment, pilot training, review of site maps (see Appendix #2) and plans, the implications and characteristics of the pesticides used and the development of a contingency plan must all be considered either prior to the start of the spray season or to the spray operation.

Appendix 2

EXAMPLE

Property Owner: Joe SmithLot: 4Concession: 2Township: BeehivesField #1: 2 HectaresField #2: 1.5 HectaresField #3: HectaresField #4: Hectares

DRAFT

Property Owner: _____

Lot: ____

Concession: ____

Township: _____

Field #1: ____ Hectares

Field #2: ____ Hectares



REQUIREMENTS FOR SPACE FUMIGATION

Following Agriculture Canada's re-evaluation of the registered fumigants, and the publication of air quality guidelines established by the Ontario Ministry of the Environment, the following information must be submitted with applications for a permit to conduct space fumigations with methyl bromide and phosphine in Ontario.

1. A diagram to scale showing property lines, and the position and use of buildings adjacent to the building(s) to be fumigated.
2. The names and licence numbers of all personnel carrying out the fumigation (N.B. Section 28(1) of the Regulation under the Pesticides Act requires that a Structural Class 2 or Class 1 Licensed Exterminator must assist the Structural 1 Exterminator who signed the permit application).
3. The name and telephone number of a contact person responsible for the building(s) to be fumigated.
4. The local Medical Officer of Health and the local police and fire departments must be notified of the time and place of fumigation. These agencies must also be notified when the fumigation has been completed.
5. Fumigant levels and temperature must be monitored within the building during fumigation. The method of monitoring is left to the discretion of the exterminator. This will vary with building design, duration of fumigation, etc. Monitoring data must be submitted with the confirmation letter within 7 days after completing the fumigation.
6. Aeration cannot be carried out under inversion conditions. Inversions are most likely to occur during summer and winter from 1:00 a.m. to 8:00 a.m. During the winter, inversions are also likely to occur during early afternoon. Information on weather conditions can be obtained on a 24-hour basis for eastern Ontario by calling the Toronto Weather Office at (416) 676-3020 and for northwestern Ontario, by calling the Winnipeg Weather Office at (204) 949-2071.
7. During aeration, the exterminator must ensure that no personnel or by-standers are located downwind in the fumigant plume.
8. Aeration may be staged depending upon requirements from the Ontario Ministry of the Environment. Aeration procedure will vary with building design, location and proximity to residential areas.

GUIDELINES FOR APPLICATION FOR A PERMIT TO PERFORM WATER EXTERMINATION OF AQUATIC PLANTS

INTRODUCTION:

Aquatic plants are an essential component of aquatic ecosystems. They provide food and cover for a myriad of aquatic organisms and help sustain our fisheries. However, excessive amounts of aquatic vegetation may interfere with intended uses of the water body (recreational purposes, crop irrigation, fire fighting, etc.) and control of aquatic plant growth may be warranted in these cases. Removal or control of aquatic plants can be achieved by a number of methods including mechanical or manual removal of vegetation, through the use of bottom barriers or by using aquatic herbicides. The use of chemicals should only be considered as a last resort.

APPLICATION FOR A PERMIT:

To perform a water extermination using a herbicide, a permit must be obtained each year from the Ministry of the Environment, unless exempt under the regulations. Permits must also be approved by the Ministry of Natural Resources. The permit authorizes the purchase and use of a registered herbicide. To obtain a permit, the following must be provided (see attached example):

1. A completed application form.
2. A map identifying the location of the property in relation to neighbouring properties and main roads.
3. A sketch of the proposed treatment area indicating the following:
 - i) ponds: length, width and average depth of the pond and all intakes and outflows (within or beyond property boundaries)
 - ii) lakes: length along the shoreline, width (distance into lake), average depth and location of any docks, islands, water intakes or other distinguishing features.

Please be advised that maps are required for our records and will not be returned.

4. If the proposed treatment area involves a number of property frontages, please follow the enclosed "Multiple Property Permit Procedure".

PERMITS WILL NOT BE PROCESSED UNLESS ALL OF
THE ABOVE INFORMATION IS RECEIVED.

SIZE OF TREATMENT AREA:

To minimize loss of fish habitat, limits have been established, by the Ontario Ministry of Natural Resources, on the size of the area in which plant control will be permitted. The area is based on the frontage of each property. Maximum recommended limits for plant control are as follows:

FRONTAGE OF PROPERTY	MAXIMUM WIDTH ALONG SHORE	MAXIMUM DISTANCE OFFSHORE	MAXIMUM WIDTH BOAT CHANNEL
More than 22 metres	15 m (50 ft)	30 m (100 ft)	6 m (20 ft)
Less than 22 metres	8 m (26 ft)	30 m (100 ft)	6 m (20 ft)

(taken from MNR's "Provincial Guidelines for Aquatic Plant Control")

Commercial establishments may require greater aquatic plant control, but as a rule, should only be allowed to perform exterminations in swimming and boating areas. The maximum area to be treated in these situations will be decided on a case-by-case basis.

TREATMENT DATES:

It is important to clearly identify the aquatic plant problem and to use the most appropriate aquatic herbicide based on site and species to be controlled. It is also important to treat the area at a time when the chemical is most effective to minimize chemical use. For example, herbicides used for control of submergent vegetation are most effective when aquatic plants first appear and growth is sparse. Treatment after dense growth has reached the surface requires more chemical to be effective. Also, large amounts of decaying vegetation can deplete oxygen supplies in the water and result in fish kills.

In water bodies where fish are present, treatment times may need to be delayed until the fish have completed spawning, usually in late spring. Fishery experts from the Ministry of Natural Resources may visit the site in question to determine appropriate treatment conditions to minimize any adverse impacts on fish populations.

APPLICATIONS FOR A PERMIT MUST BE SUBMITTED TO THE APPROPRIATE REGIONAL/DISTRICT PESTICIDES OFFICE 30 DAYS PRIOR TO THE INTENDED TREATMENT DATE TO ALLOW SUFFICIENT TIME FOR SITE INSPECTION AND PROCESSING.

Permits will not be issued for herbicide applications beyond the treatment dates specified in the following sections:

Algae:

In ponds with no outflow, algae may be controlled using **Algimycin PLL-C**, **Cutrine Plus** or **Aquashade**. Since algae dies back naturally every fall, no treatments will be permitted after the end of August.

In ponds with little or no outflow, or ponds in which outflow can be closed off, **Karmex**, **Princep Nine-T** and **Simadex Simazine** can all be used to control algae. It is recommended that these products be applied early in the season. No treatments will be permitted after the end of July.

Reglone A can be used in lakes and ponds to control excessive algae (and other aquatic plant) growth. It should only be applied when plants are in an active stage of growth in spring or early summer. No treatments will be permitted after the end of July.

Submergent Vascular Plants:

Reglone A can be used to control mixed submergent vascular plants in lakes or ponds. Its action depends on contact with and absorption by the aquatic plant, while in an active stage of growth. Once plant growth is thick and matted at the surface, application of this product is less effective. No treatments will be permitted after the end of July.

Aqua-Kleen can be used to control mixed submergent vegetation and should be applied in spring or early summer when plants have just appeared. No treatments will be permitted after the end of July.

Karmex, **Aquashade**, **Princep Nine-T** and **Simadex Simazine** can be used in ponds to treat excessive submerged aquatic vegetation. These herbicides should be applied early in the season, when vegetation growth first appears. No treatments will be permitted after the end of July.

Emergent Vascular Plants:

Aqua-Kleen can be used to control water lilies and water shield. Treatment is most effective immediately after the plants have flowered. No treatments will be permitted after the end of August.

Amitrole-T can be used to control cattails in ditches and should be applied after catkins are fully formed and up until the first frost. No treatments will be permitted after mid November.

Gramoxone can be used to control cattails, bulrushes and emergent grasses. It should be applied to cattails and bulrushes in the flowering stage and to grasses whenever necessary. **No treatments will be permitted after the end of October.**

Princep Nine-T and **Simadex Simazine** can be used to control emergent vascular plants in ditches, canals, beaches and ponds where the water level can be manipulated and on beaches. It should be applied to the exposed soil in the fall before freeze-up or in early spring. **No treatments will be permitted after mid November.**

Karmex, Princep Nine-T, Simadex Simazine or Reglone A can be used to control duckweed. These products should be applied early in the season. **No treatments will be permitted after the end of July.**

EXCEPTIONS:

Exemptions from the deadlines for submitting applications for permits will only be considered under special circumstances, for example, where failure to treat could result in serious implications for irrigation, fire protection or livestock watering.

For additional information on aquatic plants and their control, please refer to:

- MNR factsheet: Working Around Water? What You Should Know About Fish Habitat and Controlling Aquatic Plants.
- MOE booklet: Aquatic Plant Control.
- MOE booklet: How to Control Aquatic Plants.



Ministry
of the
Environment

Ministère
de
l'Environnement

Form 7

Application for a Permit to Purchase a Pesticide and/or Perform a Water Extermination

Formule 7

Demande de permis d'achat d'un pesticide et/ou de destruction de parasites aquatiques

Please print clearly.

Écrire lisiblement en lettres moulées.

Attach a map of the treatment area. Indicate access route. / Joindre une carte de la zone à traiter. Indiquer le trajet d'accès.

Property Owner's Name / Nom du propriétaire de la propriété MR. JOHN SMITH	Home Tel. / Tél. dom. (613) 544-1223	Bus. Tel. / Tél. bur. (613) 549-4000
--	--	--

Home Address / Adresse du domicile R.R. 4 KINGSTON, ONTARIO	Postal Code / Code postal K7L 4X6
---	---

Mailing Address (if different from above) / Adresse postale (si elle est différente)	Postal Code / Code postal
--	---------------------------

Name of Pesticide / Nom du pesticide Reglone A	Pest Control Products Act No. / N° d'enregistrement 9512	Active Ingredient / Ingrédient actif DIQUAT
--	--	---

Formulation / Formule LIQUID	Concentration 200 g/L	Rate Requested / Taux demandé 30 L/ha	Quantity Requested / Quantité demandée 1.0 L
--	---------------------------------	---	--

Area to be Treated / Zone à traiter		Backfly Treatment / Lutte contre les mouches noires	
Length (Frontage) / Longueur (rapade) 15m	Width / Largeur 13m	Stream Flow / Débit du cours d'eau 2.0m	Current Speed / Vitesse du courant

Name of Body of Water / Nom de l'étendue d'eau COLLINS LAKE	Lot 4	Concession 2	Township / Canton SOUTH CROSBY	District/County/Municipality / District/Comte/Municipalité LEEDS GRENVILLE
---	-----------------	------------------------	--	--

Name of Pest / Nom du parasite ALGAE	Treatment Date / Date de traitement JULY 1, 1992	No. of Treatments / Nbre de traitements 1 (one)	No. of Properties to be treated / Nbre de propriétés à traiter 1 (one)
--	--	---	--

Previous Permit? / Permis antérieur? <input checked="" type="checkbox"/> Yes / Oui	Last Permit Year / Année du dernier permis 1991	Last Permit No. / N° du dernier permis WH-4-1-1991	Amount of Pesticide left over from last treatment / Quantité de pesticide qui reste du dernier traitement 0.5 L
---	---	--	---

Water in the vicinity of the treated area is to be used for: / Utilisations de l'eau aux alentours de la zone traitée:

<input checked="" type="checkbox"/> Swimming / Natation	<input type="checkbox"/> Crop Irrigation / Irrigation des cultures	<input checked="" type="checkbox"/> Boating / Navigation de plaisance	<input type="checkbox"/> Fishing (specify) / Pêche (préciser)
<input type="checkbox"/> Drinking / Eau potable	<input type="checkbox"/> Livestock Watering / Bétail	<input type="checkbox"/> Aesthetics / Agrément esthétique	<input type="checkbox"/> Other (specify) / Autre (préciser)

Type of Sediment / Type de sédiment		Other (specify) / Autre (préciser)	
<input type="checkbox"/> Sand / Sable	<input type="checkbox"/> Gravel / Gravier	<input checked="" type="checkbox"/> Mud / Boue	

Have all adjacent owners, lessors or organizations been notified of the proposed treatment and have they all agreed, realizing use of the water may be temporarily restricted?
Tous les propriétaires, locataires ou organismes adjacents ont-ils été avisés du traitement proposé et ont-ils donné leur accord, sachant que l'utilisation de l'eau pourrait être temporairement limitée?

<input checked="" type="checkbox"/> Yes / Oui	<input type="checkbox"/> No / Non	Who notified them? / Qui les a avisés? JOHN SMITH
---	-----------------------------------	---

Is the treatment to be done by an exterminator? Le traitement doit-il être fait par un destructeur de parasites?	<input type="checkbox"/> Yes / Oui	<input type="checkbox"/> No / Non
---	------------------------------------	-----------------------------------

Exterminator's Name / Nom du destructeur	Exterminator's Licence No. / N° de permis du destructeur de parasites
--	---

Address / Adresse	Postal Code / Code postal	Bus. Tel. / Tél. bur.
-------------------	---------------------------	-----------------------

Signature of Property Owner or Exterminator / Signature du propriétaire ou du destructeur John Smith	Date JANUARY 20, 1992
--	---------------------------------

Ministry Use Only / Réserve au ministère

Permission is hereby granted under the Pesticides Act and Regulations to perform a water extermination:

La présente autorise aux termes de la Loi sur les pesticides et des règlements établis en vertu de celle-ci la conduite d'une opération de destruction de parasites aquatiques:

☐ with the attached amendments
avec les modifications ci-jointes

☐ in accordance with the above application
conformément à la demande ci-dessus

Permit No. / N° de permis	Expiry Date / Date d'expiration
---------------------------	---------------------------------

Signature of Director / Signature du directeur	Date
--	------

District Contact - Ministry of the Environment / Contact au district - min. de l'Environnement	District Contact - Ministry of Natural Resources / Contact au district - min. des Richesses naturelles
--	--

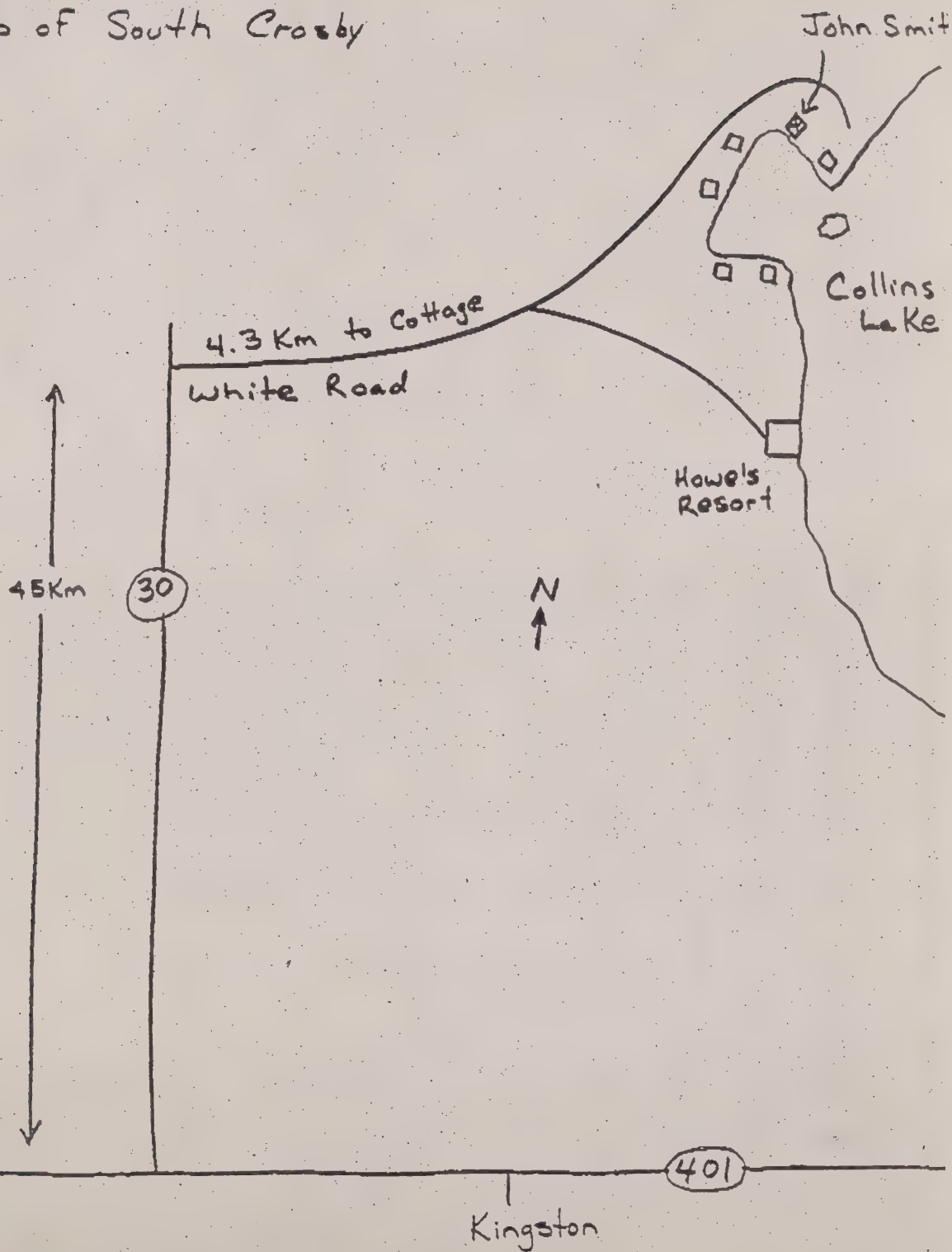
1220 (01/90)

THIS SECTION TO BE DETACHED AT TIME OF PESTICIDE PURCHASE/SALE AND RETAINED ON RECORD BY VENDOR
À DÉTACHER AU MOMENT DE L'ACHAT OU DE LA VENTE ET À GARDER EN DOSSIER PAR LE VENDEUR

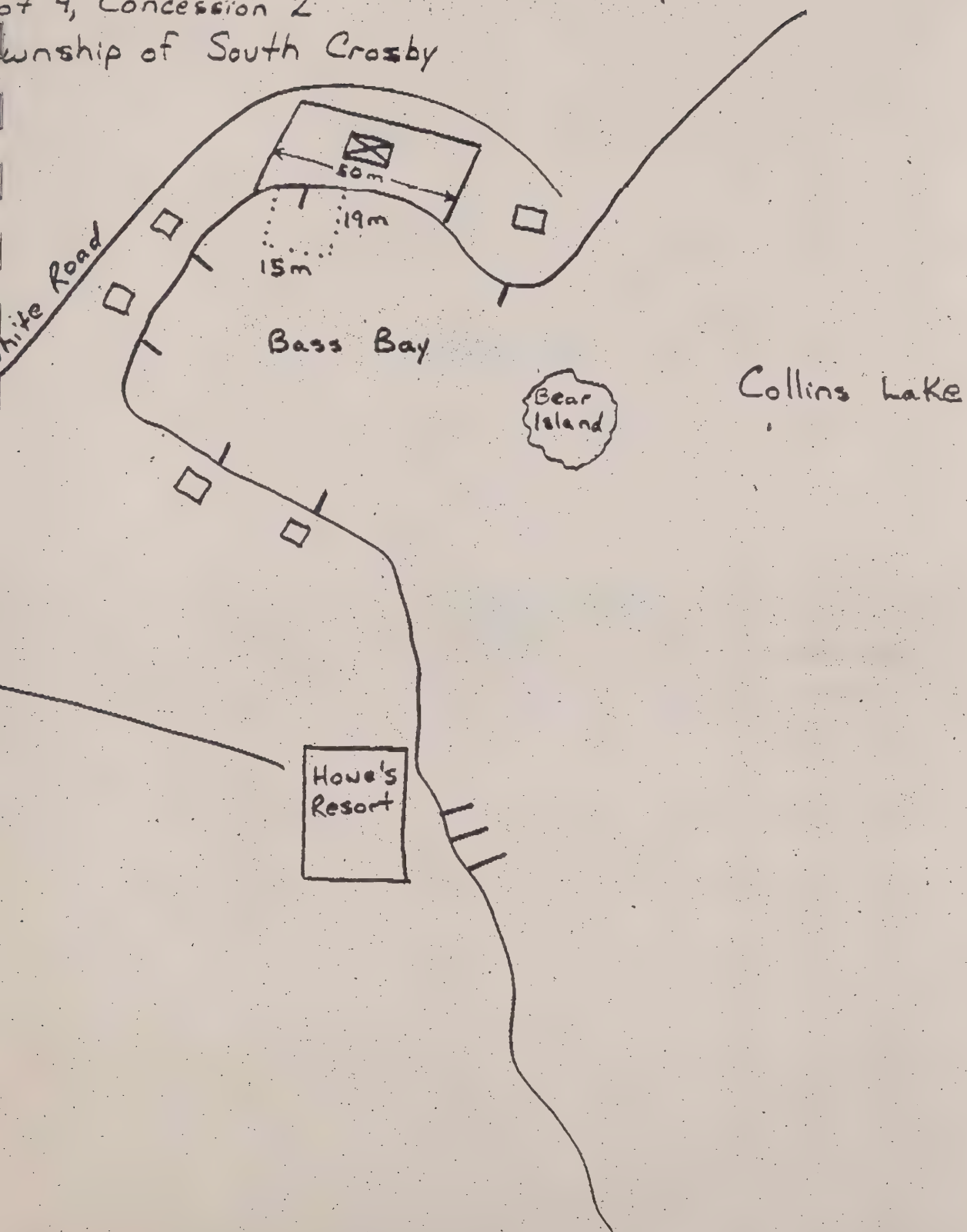
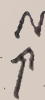
This Permit No. _____ authorizes the purchase/sale of:
Ce permis n° _____ autorise l'achat ou la vente de: _____

Map #1

Directions to John Smith Cottage
Plot 4, Concession 2
Township of South Crosby



John Smith
Plot 4, Concession 2
Township of South Crosby



APPENDIX VII

NOTIFICATION CRITERIA FOR MOSQUITO LARVICIDING TREATMENT PROGRAMS

In conjunction with the conditions of a permit issued by the Ministry of the Environment, where applicable, and the implementation of Mosquito Larviciding Ground Spray Programs, a company or municipality must accept the responsibility of notifying adjacent property owners of the intent to apply insecticides in proximity to their properties.

To best protect the public interest, the proponent is required to submit the details of their notification protocols to the Director under the Pesticides Act (= the Director) and the Regional Pesticides Supervisor.

Several criteria must be met prior to commencement, during and after the spray program is completed. These criteria include, but are not necessarily limited to:

- these criteria apply only for Mosquito Larviciding Ground Spray Programs.
- notification is required annually.
- the operator or municipality must be willing and able to comply with all the terms and conditions set out herein and must be in a position to comply with all other applicable parts of the legislation.
- **The Ministry reserves the right to exclude individual spray programs/blocks from this form of notification, based on the recommendations of the Regional Pesticides Supervisor or the Director. These projects will then be dealt with on a case-by-case basis.**
- A submission to the Director and Supervisor must include, as a minimum:
 - (1) the chosen form of alternative to full posting. This must incorporate the use of a newspaper advertisement (30 and 7 days in advance of the commencement of the program) and a second form of public notification, such as a radio advertisement, flyers, notice to Cottage Associations, public notice in an adjacent public place(s) (i.e. convenience store or Post Office) or a public sign at the access points to the spray area. This second form of notification must be published at least seven days in advance of the commencement of the spray program.

Note: for areas not serviced by a newspaper, an acceptable alternate form of written notification will be used as the first choice (i.e. flyers).

- (2) notices (i.e newspaper advertisements, flyers, etc.) must be simple and contain only those elements that are relevant to the purpose of public notification. An unobtrusive company or municipal logo may be included as part of the notice.

A typical advertisement or flyer should include the following information:

NOTICE OF GROUND SPRAYING

FOR

LARVAL MOSQUITOES

Between April 16th and May 12th, 1992, **Your Municipality Name** will be conducting a ground spray program in the Kawartha Lakes area. Specifically, the north shore of Stony Lake from Woodview to Nephton, the east shore from Nephton to Crowe's Landing and the shoreline surrounding Burleigh Falls will be treated.

The program will utilize one application of the biological insecticide *Bacillus thuringiensis* (Bt). Pest Control Products Act # 17027

MAPS AND DETAILS OF THE PROJECT MAY BE SEEN AT
AND
FOR MORE INFORMATION CONTACT:

YOUR MUNICIPALITY NAME

R.R. #9

PETERBOROUGH, ONT.

K9J 4Y1

705-555-5555

COLLECT CALLS WILL BE ACCEPTED

- (3) a 1:50,000 scale map must accompany each request for evaluation. The map would indicate those areas already designated or proposed for spraying for the current season.
- (4) a statement that the operator or municipality is willing and able to deal with the concerns of adjacent property owners. The operator or municipality must impose protective buffers around each objector (who has indicated that he/she wishes to have no spray drift onto his/her property).

In order to protect these areas:

Generally, properties encompass frontages of approximately 30 m. All properties abutting each side of the objector will not be treated. For abutting properties with larger than average frontages, the setback may be reduced to 30 m. minimum.

- (5) Sensitive areas must be adequately protected from pesticide spray drift. This may require the imposition of "No Spray" or buffer zones.

If any program involves clients or sensitive areas that cannot be adequately protected, these areas must be excluded from this project.

- (6) the operator or municipality must commit to co-operate with Ministry staff in any audits or monitoring programs that might be undertaken at the discretion of the Ministry. It is understood that notice of an audit or monitoring program given to the operator or municipality may be made without advance warning. The content of the request may include, but is not limited to, the complete details of the program (i.e exact location, names of clients, site maps, objectors, names of applicators, pesticides used, etc.).

- (7) details of the program(s) must be available at the operator's business establishment of the municipal office prior to commencement of the program, for scrutiny by the Ministry of the Environment staff.
- (8) any situations involving serious complaints, damage to property or health or spills must be reported immediately to the Ministry (Regional Office or Spills Action Centre 1-800-268-6060) or the Director.
- (9) for each spray program, the operator or municipality must provide to the Regional Pesticides Supervisor, by September 30th each year, a summary spray report that would indicate, as a minimum:
 - the exact location of the treatment area(s) (maps must be kept on file with the operator or municipality)
 - the methods of notification used
 - samples of the actual advertisements or notices used for notification
 - target pest
 - pesticide used, PCP number, rate of application and quantities used
 - identification of serious objectors and how they were handled
 - details of any incidents involving the chemicals or their application and the remedial actions undertaken

Note:

In 1993, the second form of notification (as required above in paragraph 1), will be in the form of a notice in the interim tax bill, as mailed by the municipality.

Prior to the 1993 spray season, the municipality will develop the details of a monitoring program, to be instituted in 1993. The program must be designed to determine mosquito population levels throughout the season. The purpose of the monitoring is to determine criteria, through pre and post sampling, to set threshold levels of biting fly counts, larval counts or presence/absence of female mosquitoes, which will be the basis for deciding the necessity of future larviciding programs. The monitoring will likewise evaluate the effectiveness of the control program.

APPENDIX VII

AQUATIC PERMIT PROCESSING INSTRUCTIONS

HERBICIDES

This document is intended as a guide for those persons processing aquatic herbicide permit applications. It is important that these guidelines are followed to ensure consistency in the processing of applications. It is for internal use only.

SECTION A: CONTENTS OF THE PERMIT APPLICATION

1. **MAPS:** Maps showing the treatment area and access to the property. Do not process permits not accompanied by maps. Contact the applicant by phone or return the permit. In the case of multiple property permit applications the treatment areas must be numbered and identified on the maps to match a corresponding list of names and addresses.
2. **SIGNATURES:** For multiple property permit applications, the name and address and an original signature for all participants must accompany the application. These names and addresses must be numbered and correspond to the same numbers indicated on the maps where the treatment is to take place.
3. **STATEMENT:** For multiple property permit applications, a statement must be included to show that the applicant will not be paid for carrying out the extermination, unless the treatment is to be carried out by a licensed exterminator.
4. **DECLARATION:** For treatments involving public or common areas, a declaration authorizing the applicant to treat the property on behalf of the association must be included.

SECTION B: DETAILS ON THE PERMIT

For the purpose of this section, information noted in *italics* is considered essential, and is required in order to process a permit application. Information noted in regular font is desirable, but is not absolutely necessary for the processing of the application. In some cases we suggest that other methods be used (telephone contact, checking regional files, etc) in order to obtain non-essential information if possible, as this information often makes for easier processing. Please note - if you obtain any additional information, do not add it to the permit application form unless in the presence of and with the authorization of the permittee. Under no circumstances should you change or add any information to the application form. Indicate any additional or changed information on the "Office Working Sheet".

1. **NAME AND ADDRESS:** *The name of the applicant is essential. (In the case of an application by a municipality, this "name" could be the name of the municipality. If this is the case, confirm that the declaration (see section A.4) is attached to the application to ensure that the party who has signed the application is acting under authorization.)*

2. **PESTICIDE REQUESTED:** *The trade name or common name and the Pest Control Products Act Registration Number must be indicated. If nothing is indicated, contact the applicant by phone. The formulation, concentration, rate and quantity requested are not essential.*
3. **BODY OF WATER:** *The name of the body of water must be indicated. This must be a name which is municipally accepted. (ie "Buckhorn Lake", not "Wanda's Bay")*
4. **LOCATION:** *The lot and concession number, township and county sections must all be completed. The lot numbers must be based on municipal lots, not subdivision or registered plan lots.*
5. **PEST NAME:** *It is desirable that the species involved be cited. However, references to submerged or emergent weeds will be accepted (particularly in the case of lakes).*
6. **TREATMENT DATE:** *The majority of treatments involve single applications of pesticide. In these cases, the treatment date should be specified as a range of dates covering a maximum 30 day period. (i.e. "June 15 - July 30, 1992") The treatment date must also conform to those dates specified in the "Guidelines for Application for a Permit to Perform Water Extermination of Aquatic Plants".*
7. **NUMBER OF APPLICATIONS:** *This is not a required piece of information, as generally only one treatment will be allowed. However, please note that where the applicant has requested more than one treatment, and only one treatment will be allowed, the amendment noting this fact must be included on the amendment letter. In exceptional circumstances (ie; in a badly infested pond) the District/Regional Pesticides Officer may authorize additional treatments. (See #7 of Section C - Processing the Application for guidelines on the number of additional treatments that may be authorized). These treatments should fall within the treatment dates specified in the "Guidelines for Application for a Permit to Perform Water Extermination of Aquatic Plants".*
8. **NUMBER OF PROPERTIES:** *In the case of multiple property permits, all the treatment areas must be marked, measured and number on the maps. Be sure to check the "frontage" of each property involved in the treatment (they are not always the same) to ensure that treatment areas requested are not greater than the allowable. Consult the Ministry of Natural Resources (MNR) guidelines for the allowable treatment sizes for various size properties.*
9. **PREVIOUS PERMIT:** *Consultation of previous permits is an important step towards assuring a degree of consistency in permit judgements over time. If this number is not indicated, check the regional or HCB files. If this does not prove effective, contact the applicant. If neither strategy proves fruitful, process the application without it.*
10. **WATER USES:** *If no boxes are checked for this section, please contact the applicant. Water uses of particular concern are swimming, drinking, livestock watering, and/or irrigation as use restrictions may be imposed for the use of particular chemicals.*

11. TYPE OF SEDIMENT: This information is optional.
12. NOTIFICATION: *This section is critical. The applicant must indicate "yes" (unless the proposed treatment is to take place on a pond with no outflow, and completely on the owners property). However, if the applicant has indicated "no", or left this section blank, you should contact the applicant by phone and discuss the notification requirements with him/her.*
13. EXTERMINATOR: *If a licensed exterminator will be performing the treatment, the name, address and license number of the exterminator must appear on the application. The license number must have "12" as the first two digits. If not, the person does not have the appropriate license. If the party is not yet known, they should state that negotiations are under-way or otherwise indicate that a third party will be involved in the treatment.*

SECTION C: PROCESSING THE APPLICATION

1. PERMIT NUMBER: Assign a number to the permit. This number (for example: WH-1-3-001-92) indicates the type of permit (WH=water herbicide), the region and district in which it was processed (1-3 = Southwestern Region, Clinton office), its own number (001), and the year in which it was processed (1992). In regions where there are no district offices, please use a district office number of 1 as a default. This will ensure that all permit numbers are of the same format. The regional/district numbers are as follows:
 - WH-1-1- Southwestern, London office
 - WH-1-2- Southwestern, Chatham office
 - WH-1-3- Southwestern, Clinton office
 - WH-2-1- West-Central, Hamilton office
 - WH-3-1- Central, Toronto office
 - WH-3-2- Central, Peterborough office
 - WH-4-1- Southeastern, Kingston office
 - WH-4-2- Southeastern, Ottawa office
 - WH-5-1- Northeastern, Sudbury office
 - WH-6-1- Northwestern, Thunder Bay office
2. Fill in the District Ontario Ministry of the Environment contact and the name of your region on the "Ministry use only" section of the permit. (ie; Herman Ploeg/Central). Fill in the district MNR contact and the name of the district (ie; Dave Bell/Lindsay).
3. Photocopy the entire application package and send it to the appropriate MNR contact for comment. (This should be done as soon as possible after receipt to allow sufficient time for MNR to submit their comments.)

4. Fill in the applicant's name and permit number on the "Office Working Sheet". At this point, sections 1 through 5 should also be completed. Please ensure that all the pertinent information appears on this sheet. As well, this is the place to amend or add to information supplied on the permit application.
5. Verify that the pesticide product requested by the applicant is suitable for control of the pest indicated on the permit and for the situation. Check all submitted information to be sure that no use restriction will be violated by the use of the chemical selected. Pay particular attention to fish restrictions in the case of pond treatments. Consult the table of "Pesticides Registered for Aquatic Pest Control" for the use restrictions and considerations for each product, as well as the list of pests for which the product is registered.
6. Once the pesticide product has been selected, identify the proper application rate for the situation. (These rates may vary according to the species to be controlled, water depth and the method of application.)
7. Determine the number of treatments. Generally permits will only be issued for one treatment. However, in the case of pond treatments for algae, additional treatments will be considered in cases of severe infestation. On an annual basis observe the following limits for the maximum number of treatments in ponds with recurring, heavy infestations of algae:

Algimycin PLL-C Liquid Algicide	up to 3 treatments
Slow Release Algimycin PLL-C	up to 3 treatments
Cutrine Plus	up to 3 treatments
Aquashade	up to 3 treatments
Karmex	up to 2 treatments
Reglone A	up to 2 treatments
Princep Nine-T	up to 2 treatments

8. Calculate the size of the area to be treated. Refer to the MNR "Provincial Guidelines for Aquatic Plant Control" (June 1991) for the acceptable sizes for treatment areas.
9. Multiply the APPLICATION RATE x TREATMENT AREA to obtain the QUANTITY REQUIRED. Please perform these calculations on the "Office Working Sheet".
10. Consult the list of container sizes and determine if the amount required which you have calculated is close to the available container size. All efforts should be made to avoid storage of excess aquatic herbicides by the home-owner. For this reason, some adjustments to the rate and/or treatment size may be warranted. In most cases it may be easier to adjust the rate. (However, the rate must fall within the suggested label rates.) Although it will not be possible to avoid storage of aquatic herbicides by all applicants, we should be able to restrict it in many cases. The size of the treatment area should not be reduced substantially in the case of small treatment areas (ie. for individual cottagers).

The formula to use to re-calculate the rate of application is as follows:

Where: X = desired application rate
K = label application rate
Y = original quantity (based on label rate)
Q = desired quantity of herbicide

$$X = \frac{Q \times K}{Y}$$

For example: If the pesticide selected is Reglone A and the amount required comes out to 1.8 litres (when the base application rate of 22 l/ha is used), you should probably adjust your application rate to use up the entire 2 litres of product which the applicant will have to buy. However, you must not exceed the label rate of 30 l/ha. In this case the calculation would look like this:

$$X = \frac{2 \times 22}{1.8}$$

$$X = 24$$

Therefore, the adjusted application rate is 24 litres/hectare. (Which is well below the maximum label rate of 30 l/ha).

SECTION D - AMENDMENTS AND CONDITIONS

1. Please select the appropriate amendments that should be an added condition of the permit. (see back of the Office working copy) If you have any amendments you wish to add, please indicate them at the end of the standard amendments chosen. The amendments listed are as follows:

1) "All adjacent land-owners, lessees or affected parties must be notified a minimum of 48 hours prior to the commencement of the treatment."

This amendment shall appear on all amendment letters (except in the case of a pond treatment where the pond is wholly on the applicant's property and does not have any outflow.)

2) "The permit holder must provide a copy of this permit, and its amendments to the person(s) performing the application prior to the commencement of the treatment."

This amendment shall appear in all multiple property permits and/or cases where the extermination will be performed by a licensed exterminator.

3) "Immediately prior to treatment of public or common use areas with Reglone A, signs must be erected adjacent to the water body to be treated, which sufficiently warn the public against using the water for swimming, or human or animal consumption for one day and irrigation for five days. These signs shall remain in place until these specified times have elapsed. It is the responsibility of the applicant to ensure that these signs are removed by the sixth day following treatment."

This amendment shall appear in all cases where the treatment with Reglone A is to be performed in public areas. (ie. common boat launch or public swimming areas)

4) "You are authorized to perform one treatment only."

This amendment is to be used in cases in which the applicant has requested more than one treatment, but only one treatment is authorized.

5) "Fish taken from water treated with Simadex 80W or Princep Nine-T may not be used for human consumption."

To be used where permission to use the noted products is granted.

6) "Immediately PRIOR TO TREATMENT with Simadex 80W or Princep Nine-T, all outflow from the pond must be closed off and remain closed for at least 10 days following the treatment."

To be used for pond treatments when using either of the noted products.

7) "The pesticide label for Aqua-Kleen specifies that this product cannot be used within one kilometre of a water intake. As the condition cannot be met in this situation, permission to use an alternate product is hereby authorized as follows."

To be included where the applicant has requested Aqua-Kleen, and where another product will be substituted.

8) "Immediately prior to treatment of public or common use areas with Aqua-Kleen, signs must be erected adjacent to the water body to be treated, which sufficiently warn the public against using the water for human or animal consumption and irrigation for twenty-one days. These signs shall remain in place until these specified times have elapsed. It is the responsibility of the applicant to ensure that these signs are removed by the twenty-second day following treatment."

This amendment shall appear in all cases where the treatment with Aqua-Kleen is to be performed in public areas. (ie. common boat launch or public swimming areas)

APPENDIX IX

PERMIT SIGNING AUTHORITY RECOMMENDATIONS AS DIRECTORS UNDER THE *PESTICIDES ACT*

As prescribed under Sections 3(1) and (2) of the *Pesticides Act* the Minister of the Environment may appoint Directors under the Act and Regulation 751 and limit the authority of the Director as considered necessary.

The Permit Transfer Committee recommends that a primary Director under the Act (i.e. a senior management position such as Regional Director) be appointed in each region for signing authority and approval of pesticide use permits. In the absence of the primary Director under the Act a secondary Director under the Act be appointed and in their absence a tertiary Director under the Act. The following individuals are recommended by the Committee as preferred appointees as Director under the Act.

CENTRAL REGION

1. Jim Merritt-Regional Director
2. Bob Shaw-Manager of Technical Assessment
3. Geoff Carpentier-Supervisor-Approvals and Pesticides

NORTHEAST REGION

1. Nels Conroy-Regional Director (Acting)
2. Claude LaFrance-Chief-Approvals and Planning
3. Ray Potvin-Chief-Air Quality and Assessment

NORTHWEST REGION

1. Bill Creighton-Regional Director (Acting)
2. Manager Technical Assessment
3. Gerry Gammond-Regional Pesticides Officer

SOUTHEAST REGION

1. Paul Elliott-Chief-Air Quality and Pesticide Management Unit
2. Les Fitz-Manager-Technical Assessment
3. Brian Ward-Regional Director

SOUTHWEST REGION

1. Doug M^cTavish-Regional Director
2. John Hatton-Manager-Technical Assessment
3. Doug Morrow-Chief of Pesticides Unit

WEST CENTRAL REGION

1. Hardy Wong-Regional Director
2. Stan Irwin-Manager-Technical Assessment
3. Paul M^cCubbin-Regional Pesticides Officer

APPENDIX X

**FORM WILL BE SIMILAR TO EXISTING FORM 7. INFORMATION WILL BE IN
LINE WITH DATABASE RECOMMENDATIONS PROVIDED ON PAGE 16. AN
INSTRUCTION PAGE WILL ACCOMPANY THE FORM IN THE PERMIT
APPLICANT MANUAL**

APPENDIX XI

Draft 92/10/08

**PERMITS FOR
AQUATIC PLANT CONTROL
APPLICANTS GUIDE**

ENVIRONMENT ONTARIO

Revised October 1992

Draft 92/10/08

Request for French Version Aquatic Package
Demande de Trousse en Français

If you would prefer to receive future information packages in French please fill out the form below and return to:

Ontario Ministry of the Environment
Hazardous Contaminants Branch
2 St. Clair Ave. West,
12th Floor
TORONTO, Ontario
M4V 1L5

Your name will be added to our French mailing list.

Si, à l'avenir, vous préférez recevoir les troupes d'information en français, veuillez remplir le formulaire ci-dessous et le faire parvenir à:

Environnement Ontario
Direction de la coordination des polluants dangereux
Section des pesticides
2 avenue St. Clair ouest
douzième étage
TORONTO, Ontario
M4V 1L5

Votre nom sera ajouté à la liste des personnes qui désirent recevoir de la correspondance en français.

Request for French Version Aquatic Package
Demande de Trousse en Français

Nom: _____

Adresse: _____

Ville: _____ Province: _____

Code postal: _____

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1.0 INTRODUCTION

Aquatic plants are a natural part of a healthy aquatic ecosystem. They will grow wherever adequate sunlight and suitable nutrients and water quality conditions exist.

Aquatic plants are beneficial. They augment natural dissolved oxygen levels, bind available nutrients, and provide food and habitat for many aquatic organisms. For example, many fish species use aquatic plants as spawning, nursery and feeding areas and, consequently, aquatic plants comprise an important component of fish habitat. Aquatic plants camouflage nesting sites and provide protective cover for waterfowl, fish, amphibians, reptiles and other marsh dwellers. Additionally, their seeds and tubers provide a source of food for waterfowl and other herbivores. Aquatic plants also help to stabilize shorelines and lake bottoms, reducing erosion and helping to maintain water quality.

In excessive amounts, however, aquatic vegetation can have a detrimental effect on the ecosystem. Algal "blooms" and dense submerged plant communities can create such large daily fluctuations in the dissolved oxygen levels in the water that fish may die of suffocation. Certain blue-green algal blooms, capable of producing potent toxins, may also pose a health hazard to humans and other animals drinking the water. In addition, excessive aquatic vegetation can interfere with the intended uses of the water (e.g. swimming, boating, fish rearing, fire fighting, crop irrigation, livestock watering, etc.). When this occurs, limited control of aquatic vegetation may be appropriate.

2.0 TYPES OF AQUATIC PLANTS

Aquatic plants can be divided into two broad categories: algae, which may be found as single-celled or multi-celled filamentous species; and vascular plants which generally possess true leaves, stems and root systems.

2.1 Algae

Free-floating, single-celled algae are the simplest plant forms that live in a water environment. Each cell is a complete plant in itself. In the presence of nutrients (especially phosphorus and nitrogen) and sunlight, these algae will multiply rapidly, leading to the production of algal "blooms" which can cause the water to appear "pea-soup" green or brownish. Nutrients may be introduced into the water naturally (through the decomposition of leaf

litter or aquatic plants) or artificially (through the leakage of a faulty septic system, the run-off and seepage from farm livestock operations or decomposition of grassclippings).

Filamentous algae are made up of a series of cells joined end to end which give the algae a thread-like appearance. They are also known as "pond scum" because they form greenish mats upon the surface of the water. Early in the spring, filamentous green algae may grow prolifically in ponds, but often die back naturally at the end of the summer.

Cladophora, a branched, filamentous, green alga, is a problem in many beach areas of the Great Lakes, including Lakes Huron, Erie, and Ontario. Plant filaments, growing on rocks underwater, are broken off and washed up in large quantities on the beaches. Decomposition of this debris often causes offensive odour problems.

Chara (muskgrass) and Nitella (stonewort) are also branched, filamentous algae, but superficially resemble vascular plants, although they do not actually possess true roots, stems or leaves. In these algae, calcium carbonate from the water is incorporated into the cell walls to give them rigidity. There is sufficient calcium carbonate to leave a white powder when the plants are removed from the water and dried. Chara is a problem in many hardwater trout ponds, where it may grow up to 3-4 metres in length under suitable conditions. These plants are difficult to control with moderate doses of pesticides and dense growths should be removed by physical or mechanical means. However, since each filament fragment can regenerate into a new plant, re-invasion following fragmentation during physical or mechanical removal can also be a problem.

2.2 Vascular Plants

i) Submergents

Several types of pondweeds, Eurasian water milfoil and tape grass are some of the more common submergent aquatic plants found in Ontario. These are rooted plants that grow mostly or completely below the surface of the water. They are generally flaccid and depend upon the water for support. Flowers, if present, may extend above the surface of the water.

ii) Emergents

Some of the common emergent aquatic plants found in Ontario are cattails, bulrushes, pickerelweed, duckweed and water lilies. These plants are characterized by having rooted bases below the surface of the water, with flowers and most of the leaf-stem tissue above the surface of the water.

iii) Eurasian Water Milfoil

Many of today's problems in environmental management relate directly to the presence of exotic plant imports. These are non-native plants that have been introduced either intentionally or accidentally into Canada.

One aquatic invader, well-known in Canada is Eurasian water milfoil. This plant, native to Europe and Asia, was found in 1902 in Chesapeake Bay, Maryland, and has since spread throughout North America. Its first recorded presence in Canada was a specimen collected from Rondeau Provincial Park in 1961. The plant was not widely recognized as a nuisance until the early 1970's when it became troublesome in the Kawartha Lakes in Ontario, in Quebec and in British Columbia.

Eurasian water milfoil is an extremely aggressive plant that reproduces largely by fragmentation. It grows rapidly and crowds out the existing native plants. It can invade water from 1 to 10 metres deep. When the stems reach the surface, canopy formation occurs through profuse branching. In temperate climates, the plant exhibits a rapid growth phase in early spring. It reaches the water surface by mid to late June and causes severe interference with recreational water uses. Since it can thrive under a variety of environmental conditions, it has become widespread in lakes in southern Ontario. However, it does not commonly occur in soft-water Precambrian Shield lakes.

3.0 CONTROL METHODS

With any pest, it is imperative that the problem is properly identified before a control method is selected. If you have any doubts about the identity of your pest plants, you can contact the Pesticides Officer at the nearest District Office of the Ontario Ministry of the Environment (Appendix H).

A wide range of control methods including physical/mechanical, chemical and biological have been practised around the world. None of these methods is best in all situations: all have advantages and disadvantages. Consequently, a careful assessment of the various methods in a particular situation and the ecological value of local aquatic plants is essential before any attempt at control is undertaken. Primary consideration should always be given to rectifying the main cause of the problem, namely, to reduce the amount of nutrients entering the water.

In order to protect the aquatic environment, every proposal for aquatic plant removal must be evaluated. Where chemical control is being considered, approval must be obtained from the Ministry of the Environment. Approval for physical or mechanical plant control must be obtained from the Ministry of Natural Resources.

Control Method	Approval Required	Approving Agency
chemical	Yes	Ministry of Environment
raking/hand pulling	Yes	Ministry of Natural Resources
harvesting	Yes	Ministry of Natural Resources

3.1 Physical/Mechanical Control

i) Hand-pulling, Cutter-bar Devices and Mechanical Harvesting

A variety of devices have been developed in recent years to permit the cutting of aquatic plants. Most have a small cutter bar and are operated by hand. These devices are light and portable but should not be used indiscriminately.

The use of cutter-bar devices or hand-pulling can be effective in removing plants from small, near shore areas. They are not well-suited to removing plants over large areas such as extended boat channels.

Mechanical harvesters can remove plants effectively, especially in offshore areas. However, they may be difficult to use in shallow nearshore areas, particularly where they must be manoeuvred around obstructions. They may also disturb the sediment causing increased turbidity, nutrients and contaminants

to be released into the water. Therefore, special care should be taken to ensure the lake bottom is not disturbed.

Harvesting is usually done by means of a submerged cutting bar and a conveyor loading system. The main advantage of harvesting is that it removes the plants and consequently the nutrients that would be released into the aquatic system from the decaying plant matter. However, aquatic plants may have to be harvested several times in one season.

It is essential to remove harvested plants from the water to prevent problems of oxygen depletion when the plants decompose and spreading/re-rooting of plant fragments. Cut plants can be composted and used as a soil conditioner or garden mulch. Where harvested plants cannot be used beneficially the property owner can dispose of them along with normal household wastes.

ii) Bottom Barriers

The growth of aquatic plants can be largely prevented by placing a sheet of dark, heavy-duty material over an area of the lake bottom. This acts as a barrier between the sediments and the water column, impeding plant growth. It also minimizes root attachment and re-entry of nutrients into the water column.

The use of bottom barriers can provide effective, long-term plant control. They must be cleaned periodically, particularly in turbid water, to prevent plants from re-establishing on any silt or organic matter that may settle on top of the barrier.

Bottom barriers are commercially available in a variety of materials such as plastic or silicone rubber. They should be made of durable material and be constructed to allow gas from decomposing plants to escape through the barrier.

iii) Dredging

Dredging removes aquatic plants and nutrient-rich sediments. It can also be used to deepen a waterbody, thereby reducing the amount of light reaching the bottom. This restricts the area which can be colonized by aquatic plants.

Dredging can provide effective plant control but can result in a number of harmful environmental effects. For example, dredging may destroy valuable spawning areas for fish and the disturbance of sediments may result in increased turbidity and release of nutrients and contaminants into the water. Disposal of the dredged material may also pose a problem, especially if it is contaminated.

Due to environmental concerns, dredging is not normally an acceptable method of aquatic plant control in public waters. Its use may be considered only where the removal of sediment as well as plants is authorized. Dredging may be used to create or maintain boat channels or drainage ditches, and it can provide effective plant control in private ponds.

iv) Drawdown

Aquatic plants require relatively stable water levels to survive and grow. In some cases it may be possible to reduce plant abundance by changing water levels. This technique, called "drawdown", involves lowering the level of a waterbody during the winter to expose plants to freezing and desiccation. However, the effectiveness of drawdown is variable.

Drawdown can result in harmful environmental effects by destroying aquatic life, other than plants, in the waterbody. For example, fish eggs and fish food organisms may also be frozen or desiccated. Drawdown may also affect downstream waters by releasing disturbed sediment and debris, particularly if water levels are lowered too quickly.

The use of drawdown is not an option in public waters. It may be considered only where the waterbody being treated is a pond located entirely on one's own property.

3.2 Biological Control

Biological control may offer a possible alternative to chemical or physical/mechanical control methods. It involves the use of a biological agent (e.g. a natural predator) to control an undesirable pest species. However, these biological agents (fish, pathogens, insects, etc.) are of necessity exotic imports and in view of past problems, the Ontario government is generally cautious about approving the use of these agents.

Currently, the use of biological control is in a developmental stage and must be approached with care to avoid the possibility of substituting one pest for another.

3.3 Chemical Control

The word pesticide is used as an umbrella term and includes herbicides (control of plants), insecticides (control of insects), and rodenticides (control of rats and mice) etc.. Many herbicides are effective only against particular plants. Therefore it is essential to identify plants before choosing a herbicide to ensure that it will be effective. Since the plants are normally not removed from the waterbody, herbicide treatment results in the release of nutrients into the aquatic environment when the plants decompose. These nutrients in turn serve as food for next year's crop and may also contribute to the development of severe algal "blooms".

Not all species of aquatic vegetation can be controlled by currently registered herbicides. Tape grass is an example of an aquatic plant which is resistant to herbicidal activity. When resistant and susceptible plant species occur together and jointly create a problem, an integrated pest management scheme, incorporating different control methods, must be sought, rather than one using pesticides alone.

4.0 LEGAL REQUIREMENTS

4.1 Protection of Fish Habitat

Aquatic plants play a key role in aquatic ecosystems. They are an important component of fish habitat, providing spawning, nursery and feeding areas for many species. Consequently, plant removal can seriously harm fish populations which depend on the presence of plants.

Section 35(1) of the federal Fisheries Act states that "no person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat". Consequently, before removing or altering aquatic vegetation, approval must be obtained from the local District Office of the Ministry of Natural Resources (MNR).

Where the proposed plant control would involve physical or mechanical control methods, a work permit or other form of authorization may be required. A list of MNR District Offices is included in Appendix I.

For further information on work permit requirements, see the MNR factsheet entitled "How to Control Aquatic Plants".

4.2 Pesticides

Pesticides must be registered under the federal Pest Control Products (PCP) Act and classified under the provincial Pesticides Act before they are legal for sale and use in Ontario.

The pesticide label which carries a registration number under the PCP Act, is a legal document. The pesticide must only be used in the manner specified on the label for the purposes specified on the label. ANY OTHER USE IS ILLEGAL. ALWAYS READ THE LABEL CAREFULLY.

4.3 Licenses

The Pesticides Act, Subsection 5(1), provides that: "no person shall engage in, perform, or offer to perform an extermination except under and in accordance with a licence of a prescribed class...unless exempt under the regulations."

Therefore, unless exempt, a water exterminator's licence (Class 1 or Class 3 endorsed) is required by anyone applying a pesticide to water in Ontario (unless exempt). Furthermore, if the person is in the business of performing exterminations, an Operator's Licence is also required.

An exterminator's licence is not required where a person wishes to treat a pond located wholly within the boundaries of their property or the property of their full-time employer if there is no outflow at any time beyond their property limits.

The licensing system ensures that people are educated about the proper storage, handling, and use of pesticides, and their impact on the environment.

4.4 Permit

Subsection 7(2) of the Pesticides Act provides that: "no person shall perform a water extermination unless he/she is the holder of a permit issued by the Director [under the Act] for the water extermination or he/she is exempt under the regulations".

Therefore, unless exempt, a Permit to Purchase a Pesticide and/or Perform a Water Extermination must be obtained before any aquatic pesticide can be legally purchased or applied to surface waters (e.g. ponds, lakes, rivers), in Ontario. A permit is not required by a person who wishes to treat a pond located wholly within the boundaries of their property or the property of their full-time employer if there is no outflow at any time beyond their property limits. However, it is recommended that they do so.

The permit system prevents excessive and indiscriminate use of pesticides by ensuring proper pesticide selection; by authorizing the amount of pesticide that may be purchased and used; by setting forth conditions under which it may be used; and by delineating the treatment area.

All applications for a Permit to Purchase a Pesticide and/or Perform a Water Extermination are reviewed by staff from the Ontario Ministry of the Environment and the Ontario Ministry of Natural Resources. If valid reasons exist, the Director under the Pesticides Act may deny the permit or impose certain conditions. The applicant may appeal by contacting the Director and may request a hearing before the Environmental Appeal Board.

The acquisition of a permit or a licence does not divest any individual or commercial applicator of the responsibility for any undesirable consequence arising from a treatment. Anyone applying any substance without the authority of a licence or permit, or violating any of the terms and conditions of a permit, is guilty of an offence under the Pesticides Act and Regulation and upon summary conviction, is liable to a fine.

ALL OF THE TERMS AND CONDITIONS SET FORTH ON THE PERMIT MUST BE STRICTLY FOLLOWED. Neighbours must be notified and must agree prior to the water extermination. The size of the treatment area, and the rate and amount of pesticide authorized for use must not be exceeded. Signs must be posted if required and any other terms or conditions must be complied with, as stipulated on the permit.

For information on how to obtain a Permit to Purchase a Pesticide and/or Perform a Water Extermination see APPENDIX A "Water Extermination Permit Guide" and APPENDIX B "Multiple Property Permit Procedures".

5.0 SUGGESTED READINGS:

1. How to Control Aquatic Plants, MOE*
2. Publication #75, Guide to Weed Control, OMAF**
3. Farm Ponds, OMAF
4. Working Around Water, MNR***
5. Provincial Guideleines for Aquatic Plant Control,
June 1991 ***

* Ontario Ministry of the Environment
** Ontario Ministry of Agriculture and Food
*** Ontario Ministry of Natural Resources

Appendix A

Water Extermination Permit Guide

A Permit to Purchase a Pesticide and/or Perform a Water Extermination must be obtained each year before a person may purchase or apply an aquatic pesticide. This permit authorizes the use of a registered pesticide under specific conditions, and must be approved by both the Ontario Ministry's of Environment and Natural Resources.

To obtain a permit the following must be submitted:

1. a completed application form;
2. a map identifying the location of the property in relation to the neighbouring properties and main roads (see Appendix C for example);
3. a sketch of the proposed treatment area showing:
(see Appendix D for example)
 - i) Ponds -length, width and average depth
 -all intakes and outflows (within or beyond property boundaries)
 - ii) Lakes -size of the proposed treatment area
 including length (along the shoreline),
 width (distance into lake) and average depth

The completed application package should be forwarded to the District Pesticides Officer who is responsible for the "county" in which the proposed treatment will be done. Allow 6 weeks for processing.

PERMITS WILL NOT BE PROCESSED

UNTIL ALL THE REQUIRED INFORMATION IS RECEIVED.

Please be advised that maps are required for our records and will not be returned. Applicants should therefore retain copies for future submissions

Appendix B

Multiple Property Permit Procedure

Requests for water extermination permits which cover more than one property and which are performed either by the property owners themselves or by a licensed exterminator, must be accompanied by the following:

1. a completed application form;
2. a map identifying the location of the property in relation to the neighbouring properties and main roads (Appendix C);
3. a sketch of the proposed treatment area showing (Appendix D):
 - i) the location of all participating and non-participating properties - numbered to correspond to the list of names and signatures (see example below);
 - ii) the size of the treatment area: length (along the shoreline) x width (distance out into the lake from the shoreline) x average depth;
 - iii) vacant lots, crown land, rights of ways or public accesses.
4. the name, home address, telephone number and original signature (photocopies not acceptable) of every participant.

EXAMPLE:

LOT#	NAME	ADDRESS	TELEPHONE #	SIGNATURE
1	M. Smith	R.R. #2 Kingston	(613)123-1234	_____
2	J. Doe	48 2 nd St., Ottawa	(613)321-4321	_____
3	L. White	2 Main ST., Toronto	(416)123-0011	_____

5. a written statement that the person(s) performing the extermination will not be paid for their services;
OR
the name, address, telephone number and licence number of the licensed exterminator hired to perform the extermination.

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The completed application package should be forwarded to the District Pesticides Officer who is responsible for the "county" in which the proposed treatment will be done (Appendix H). Allow 6 weeks for processing.

PERMITS WILL NOT BE PROCESSED

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The completed application package should be forwarded to the District Pesticides Officer who is responsible for the "county" in which the proposed treatment will be done (Appendix H). Allow 6 weeks for processing.

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Appendix C
Map to Locate Property

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Appendix D

Map Detailing Treatment Area

Appendix E

Aquatic Herbicides

NOTE: This factsheet is not intended to supersede or replace any product label. All label directions must be strictly followed.

1. Copper-based Compounds: SLOW RELEASE ALGIMYCIN PLL-C
ALGIMYCIN PLL-C
CUTRINE PLUS
CUTRINE PLUS GRANULAR

Treatment Sites: Ponds with no outflow.

Plants Controlled: Algae

Restrictions:

- These products may be used only in ponds which are wholly confined within the property of the user and where there is no outflow beyond the property limits at any time.
- Application is prohibited in public waters or water courses that may drain into public waters.
- Not for use in potable water systems.

Fish Caution:

- Extreme caution is advised when using copper compounds in ponds containing fish.
- May be extremely toxic to fish, particularly trout, in soft waters at any concentration and in hard waters at concentrations greater than 0.4 ug/L.
- To avoid suffocation of fish due to lack of oxygen caused by decaying vegetation, treat 1/4 to 1/3 of the pond at one time. Wait two weeks before treating another section of the pond.

2. Water Soluble Dyes: AQUASHADE

Treatment Sites: Ponds with no outflow.

Plants Controlled: Algae

Restrictions:

- Do not use in water where loss of dye can occur by water exchange or overflow such as lakes, running streams or ponds with an outlet.
- Do not apply to water that will be used for drinking or other domestic purposes.

Fish Caution:

- Mechanically remove heavy vegetation before applying Aquashade, to avoid oxygen depletion and fish suffocation.

3. Simazine: PRINCEP NINE-T
SIMADEX FLOWABLE

Treatment Sites: Ponds with little or no outflow.

Plants Controlled:

- Filamentous algae (pond scum), Stonewort (Nitella) and Muskgrass (Chara sp.)
- Submerged and floating aquatic plants such as pondweeds, Canada waterweed, duckweed, water moss, coontail, naiads and milfoil.

Restrictions:

- Do not use water from treated ponds for irrigation or human consumption.
- Treated water coming in contact with grass or other vegetation may cause damage.
- May damage trees such as willows, or shrubs growing around the pond.

Fish Caution:

- Do not use fish taken from treated ponds for human consumption.
- Treat only a small portion of the pond at one time to avoid oxygen depletion and fish suffocation.

4. Diuron:

KARMEX DF

Treatment Sites: Ponds and dugouts with little or no outflow.

Plants Controlled:

- Algae (filamentous types and Chara sp.) and other aquatic plants such as naiads, pondweeds, duckweed and bladderwort.

Restrictions:

- Do not use in domestic water supplies.
- Do not use in ponds and dugouts producing fish for human consumption.
- Do not use water from treated ponds within one year for irrigation.
- Do not apply to ponds having desirable trees or shrubs on the perimeter or to areas where their roots may extend, or in locations where the herbicide may be washed or moved in contact with the roots.
- Do not drain ponds into areas containing desirable plants, as injury to the plants may result.

Fish Caution:

- Treat only a small portion of the pond at one time to avoid oxygen depletion and fish suffocation.

NOTE: Diuron is not effective in flowing water.

5. Diquat:

REGLONE A

Treatment Sites:

- Still or slow moving water of farm dugouts, farm ponds, farm ditches, lakes and canals.

Plants Controlled:

- Coontail, pondweeds, water milfoil, duckweed and Canada waterweed.
- Algae: Cladophora sp., Spirogyra sp. and Pithophora sp. will be temporarily controlled. Stonewort and muskgrass will not be controlled.

Restrictions:

- Do not use treated water for at least 24 hours after treatment for swimming or human or animal consumption.
- Do not use treated water for irrigation for at least 5 days.

Fish Caution:

- Treat only a small portion of the area at one time to avoid oxygen depletion and fish suffocation.

6. 2,4-D: AQUA-KLEEN

Treatment Sites:

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THIS SECTION TO BE

- REMOVED BASED ON te
etail

Rest

RHÔNE- POULENC REMOVING

- AQUA KLEEN FROM MARKET. water
- DUE TO PERMIT RESTRICTIONS. in by

sensitive crops, for at least 60 days after treatment in confined waters.

Fish Caution:

- Treat early in season when plant growth is sparse to avoid oxygen depletion and fish suffocation.

7. Paraquat: GRAMOXONE

Treatment Sites:

- Wherever cattails, bullrushes and emerged grasses occur.

Plants Controlled:

- Cattails, bullrushes and emerged grasses.

Restrictions:

- Do not use treated water for 7 days for swimming or human or animal consumption.
- Do not use treated water for irrigation for 5 days.

8. Amitrole: AMITROL-T

Treatment Sites:

- Non-cropped areas (roadsides, fencerows, ditchbanks) where water is wholly confined to user's property.
- To be used in dry ditches or ditches with standing water only.

Plants Controlled:

- Cattails

Restrictions:

- Do not apply where water will be used for irrigating, drinking or other domestic uses.
- Do not apply where water is not wholly confined to user's property.
- Do not contaminate any body of water.

Appendix F

Guide to Pesticide Rates

This guide has been prepared to aid the property owner in completing the application form for a Permit to Purchase a Pesticide and/or Perform a Water Extermination.

It is not intended to supersede or replace any product label.
All label directions must be strictly followed. ALWAYS READ THE LABEL carefully before using any pesticide.

The suggested rates provided below reflect the rates given for currently available registered pesticides at the time of publication. Since there may be other products available on the market for the intended use, refer directly to the label of the product for determining the correct method and rate of application.

Pesticide	Pests	Suggested Rates
REGLONE A ^a liquid herbicide ^b diquat ^c , 200g/L ^d P.C.P Act No. 9512 ^e	Aquatic weeds* partial control of Cladophora, Spirogyra and Pithophora algae; temporary control of water lillies	22 l/ha in less than 1.5m of water 30-35 l/ha in greater than 1.5m of water
SIMADEX flowable liquid simazine, 500g/L P.C.P Act No. 15902	Filamentous algae (pond scum) Submerged and floating aquatic weeds Stonewort and muskgrass	0.5L/500,000 L of water 1L/500,000 L of water 2L/500,000 L of water
PRINCEP NINE-T water dispersible granule simazine, 89% P.C.P Act No. 16370	Filamentous algae (pond scum) Submerged and floating aquatic weeds Stonewort and muskgrass	5g/10,000 L of water (0.5g/m ³)** 10g/10,000 L of water (1g/m ³)** 20g/10,000L of water (2g/m ³)**
AQUASHADE liquid herbicide water slouble dyes, 26% P.C.P Act No. 17160	Filamentous algae and other aquatic weeds	750 mL/1000m ³ of water**

ALGIMYCIN PLL-C liquid algicide copper, 5.0% P.C.P Act No. 13807	Algae	3L/1000m ^{3**} complete treatment 6-9L/1000m ^{3**} spot treatment
SLOW RELEASE ALGIMYCIN PLL-C algicide tablets copper, 5.0% P.C.P Act No. 13808	Chara and Nitella Filamentous algae	22.5-45 kg/ha 3.5-7 kg/1000m ^{3**}
CUTRINE-PLUS LIQUID ALGAECIDE copper, 9.0% P.C.P Act No. 13249	most algae Chara (muskgrass)	9.21 L/ha in 0.5m of water 18.42 L/ha in 1m of water 27.63 L/ha in 1.5m of water 18.42 L/ha in 0.5m of water 36.48 L/ha in 1m of water 55.26 L/ha in 1.5m of water
CUTRINE-PLUS GRANULAR ALGAECIDE copper, 3.7% P.C.P Act No. 13945	Chara, Nitella and bottom growths of filamentous algae	67 kg/ha (complete treatment) 6.7 g/m ² (spot treatment)
KARMEX DF dispersible granule diuron, 80% P.C.P Act No. 21252	Algae and aquatic weeds*	6.25-25 kg/ha-m ^{***} (use lower rates for algae and higher rates for aquatic weeds)
AQUA-KLEEN granular 2,4-D, 19% P.C.P Act No. 9907	Aquatic weeds*	110-225 kg/ha
GRAMOXONE liquid herbicide paraquat, 200g/L P.C.P Act No. 8661	Cattails, Bulrushes and emerged grasses	5.5-11 L/ha

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a Trade Name of pesticide
b Formulation
c Active Ingredient
d Concentration of active ingredient
e Registration No. under the Federal Pest Control Products Act
* See product label for list of specific aquatic weeds controlled
** $m^3 = 1000L$
*** "ha-m" = hectare-metre = volume of water in pond 1 hectare in area and 1 metre deep. To calculate the ha-m, multiply the number of hectares by the average depth

Appendix G

Herbicide Calculations

In order to calculate the amount of herbicide required for a treatment, it is essential to calculate, as accurately as possible, the surface area of the body of water to be treated. If the product application rate for a herbicide (as given on the label) is stated in "kg/ha" (kilograms per hectare) or "L/ha" (litres per hectare), then the amount of herbicide to be used can be calculated by multiplying the surface area (in hectares) by the product application rate (expressed in kilograms or litres per hectare).

EXAMPLE #1

You want to use Reglone A to control the growth of pondweeds, water milfoil and duckweed in a 15.25 m x 30.5 m (50 ft. by 100 ft.) area of the lake in front of your cottage.

- a) Determine the application rate of the product by reading the Reglone A label (see also "Guide to Pesticide Rates").

The product application rate is 22L/ha.

- b) Determine the surface area of the water to be treated, in hectares:

$$\begin{aligned}\text{Surface area} &= \text{length} \times \text{width} \\ &= 15.25 \text{ m} \times 30.5 \text{ m} \\ &= 465 \text{ m}^2\end{aligned}$$

$$\begin{aligned}\text{Since } 10,000 \text{ m}^2 &= 1 \text{ ha} \\ \text{Therefore } 465 \text{ m}^2 &= \frac{465}{10,000} \\ &= 0.0465 \text{ ha}\end{aligned}$$

- c) Calculate the amount of Reglone A required:

Amount required

$$\begin{aligned}&= \text{surface area} \times \text{application rate} \\ &= 0.0465 \text{ ha} \times 11 \text{ L/ha} \\ &= 1 \text{ L}\end{aligned}$$

Therefore 1 litre of Reglone A would be required to treat an area of 15.25 m (50') x 30.5 m (100').

NOTE: It is essential to use the correct application rate, in order that the correct amount of herbicide is applied. All calculations

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should be made using the PRODUCT application rate as recommended on the PRODUCT LABEL.

If the application rate for a herbicide is given as an amount of product to use per volume of water, then the volume of water to be treated must be calculated before the amount of herbicide to be used can be determined (see Example #2).

EXAMPLE #2

To treat a roughly circular pond, 50 m in diameter, with Princep Nine-T for the control of filamentous algae, the amount of Princep Nine-T required can be calculated as follows:

- a) The surface area of a circle is equal to πr^2 , where $\pi = 3.14$ and r is the radius of the circle (see diagram below).

Therefore, the surface area of the pond is:

$$\begin{aligned} &= \pi r^2 \\ &= 3.14 \times 25 \text{ m} \times 25 \text{ m} \\ &= 1,962.5 \text{ m}^2 \end{aligned}$$

- b) The volume of water to be treated is calculated by multiplying the surface area times the average depth. Therefore, if the average depth of the above pond is 2.0 m, the volume of water is equal to:

surface area x average depth

$$1,962.5 \text{ m}^2 \times 2 \text{ m} = 3,925 \text{ m}^3$$

Since $1 \text{ m}^3 = 1,000 \text{ L}$

$$\begin{aligned} \text{The volume of water} &= 3,925 \text{ m}^3 \times 1,000 \text{ L/m}^3 \\ &= 3,925,000 \text{ L} \end{aligned}$$

- c) Therefore, the amount of Princep Nine-T required is:

recommended product rate x volume of water

$$\begin{aligned} 5 \text{ g/10,000 L} \times 3,925,000 \text{ L} &= 1962.5 \text{ g} \\ &= 1.9625 \text{ kg} \\ &= 2 \text{ kg} \end{aligned}$$

Conversions:

1 yard	=	0.91 m
10,000 m ²	=	1 ha
1 m ³	=	1000 L
1 ha	=	2.5 acres
1000 g	=	1 kg
1 ft	=	0.3048 m
50 ft	=	15.25 m
100 ft	=	30.50 m

Legend:

ft	=	foot
m	=	metre
m ²	=	square metres
m ³	=	cubic metres
ha	=	hectare
g	=	gram
kg	=	kilogram
L	=	litre

Appendix H

Ontario Ministry of the Environment Pesticide Control Offices

Essex, Kent, Lambton	P.O. Box 726, 435 Grand Ave. W. Chatham, Ontario N7M 5L1	519-354-2150
Elgin, Middlesex, Oxford	985 Adelaide St. S. London, Ontario N6E 1V3	519-661-2200
Haldimand, Norfolk, Niagara, Hamilton, Wentworth, Dufferin, Wellington, Waterloo, Brant	Ontario Government Building 119 King St. W. Hamilton, Ontario L8N 3Z9	416-521-7640
Bruce, Grey, Huron, Perth	Ont. Ministry of Agriculture and Food 20 King St., Box 688 Clinton, Ontario NOM 1L0	519-482-3428
Halton, Peel, York, Durham, Toronto, Simcoe, Muskoka	7 Overlea Blvd., 4 th Floor Toronto, Ontario M4H 1A8	416-424-3000
Peterborough, Victoria, Haliburton, Northumberland	139 George St. N. Peterborough, Ontario K9J 3G6	705-743-2972
Frontenac, Hastings, Lennox & Addington, Prince Edward, Leeds & Grenville	133 Dalton Ave. Kingston, Ontario K7L 4X6	613-549-4000
Prescott & Russell, Renfrew, Stormont, Dundas & Glengarry, Ottawa-Carleton, Okanark	2435 Holly Lane Ottawa, Ontario K1V 7P2	613-521-3450
Manitoulin, Nipissing, Parry Sound, Sudbury, Cochrane, Timiskaming, Algoma	199 Larch Street Sudbury, Ontario P3E 5P9	705-675-4501
Kenora, Rainy River, Thunder Bay	Ontario Government Building 435 James St. S. Thunder Bay "F", Ontario P7C 5G6	807-475-1712

APPENDIX XII

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PERMITS FOR AQUATIC PLANT CONTROL

MOE REVIEW GUIDE

Revised October 1992

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INFORMATION RE: INFORMIX DBASE TABLES,
REPORTS, FORM LETTERS^{ETC.} WILL ALSO BE
INCLUDED AS APPENDICES.

Permits For Aquatic Plant Control

MOE Review Guide

This document is intended as a guide for staff responsible for processing applications for aquatic herbicide permits. It is important that these guidelines are followed to ensure a consistent approach when reviewing permit applications.

1.0 Contents of Application Submission

- completed Form 7 (#1220 (01/90) Application for a Permit to Purchase a Pesticide and/or Perform a Water Extermination
- map for field staff to locate the proposed site
- map illustrating details of the proposed application area
- declaration for public or common areas and multiple property applications that the applicant is authorized to perform the treatment and will not be paid for performing the extermination.

2.0 Application Review

- ☒ Applicant Name and Mailing Address
- ☒ Pesticide Requested and Registration Number {formulation, concentration, rate and quantity requested}
- ☒ Treatment Area
- ☒ Body of Water: full name of waterbody ie. Buckhorn Lake, not Wanda's Bay
- ☒ Location: lot, concession, township and county (lot is municipal lot, not subdivision lot or registered plan lot)
- ☒ Name of Pest: Although the species involved should be listed, references to submerged or emergent weeds will be accepted (particularly in the case of lakes)

{ } information not absolutely required for processing

- ☒ Treatment Date: the treatment date should be specified as a range covering a maximum 30 day period (i.e. July/92). The treatment date must also conform to those dates specified in the "Guidelines for Application for a Permit to Perform Water Extermination of Aquatic Plants".
- ☒ {Number of Applications}: This is not a required piece of information, as generally only one treatment will be allowed. However, please note that where the applicant has requested more than one treatment, and only one treatment will be allowed, the amendment noting this fact must be included on the amendment letter. In exceptional circumstances (ie; in a badly infested pond) the Pesticides Officer may authorize additional treatments.
- ☒ Number of Properties: For multiple property permits, each property and treatment area must be marked on the maps. The "frontage" of each property must be indicated to ensure the requested treatment areas are consistent with the MNR Provincial Guidelines for Aquatic Plant Control.
- ☒ Previous Permit: To ensure applicants receive consistent decisions from year to year confirm their permit history.
- ☒ Water Uses: Required to determine if pesticide requested is suitable and what permit amendments may be required.
- ☒ {Type of Sediment}:
- ☒ Notification: This section is critical. The applicant must indicate "yes" (unless the proposed treatment is to take place on a pond with no outflow, and completely on the owners property). If the applicant has indicated "no", or left this section blank, you should contact the applicant and discuss the notification requirements.
- ☒ Exterminator: If a licensed exterminator will be performing the treatment, the name, address and licence number of the exterminator must be given.

{ } information not absolutely required for processing

3.0 Processing Instructions

- 3.1 Once necessary submissions are received and complete, assign the permit the next chronological district number.

example: WH-1-3-001-92

WH = Permit Type Code (Water Herbicide)
 1 = Region code (Southwestern Region)
 3 = District code (Clinton District)
 001 = Chronological Number for each District
 92 = Permit Year

WH-1-1-	Southwestern, London
WH-1-2-	Southwestern, Chatham
WH-1-3-	Southwestern, Clinton
WH-2-1-	West-Central, Hamilton
WH-3-1-	Central, Toronto
WH-3-2-	Central, Peterborough
WH-4-1-	Southeastern, Kingston
WH-4-2-	Southeastern, Ottawa
WH-5-1-	Northeastern, Sudbury
WH-6-1-	Northwestern, Thunder Bay

- 3.2 On the bottom of the application form enter the MOE District contact and region (ie. Herman Ploeg/Central) and enter the MNR District contact and district (ie. Dave Bell/Lindsay).
- 3.3 Enter the required information in the Aquatic Permit Informix Database
- query Table I using applicant phone number
ie. (###)###-####
 - if phone # query is negative
then double check by querying surname
 - if applicant has had previous permit
then add new Table II for present permit application
 - if first time applicant
then add new Table I
then add Table II for present permit
 - write applicant Identification Number from the Informix Database at top of application {this will help future queries to find applicant information}

- 3.4 Generate the Informix WORKING SHEET

- 3.4.1● for permit renewals select the WORKING SHEET report from the Informix menu
- at prompt enter last permit number ie. for WH-4-1-001-92 enter 001
 - at prompt enter last permit year ie. for WH-4-1-001-92 enter 92
 - write this year's permit number at section #2
 - write the date received at section #3
 - write this year's request at section #9
- 3.4.2● for new applicants use the pre-printed "Working Sheet for New Applicant's"
- write the applicant's name at section #1
 - write this year's permit number at section #2
 - write the date received at section #3
 - write this year's request at section #9
- 3.5 Photocopy the application, maps and WORKING SHEET
- send copy of application/maps and original WORKING SHEET to the appropriate MNR District
 - keep the original application/maps and a copy of the WORKING SHEET in the temporary file
- 3.6 Receive MNR Comments
- update Informix Database: tracking section Table II
- 3.7 Obtain the authorized treatment area from the WORKING SHEET returned from MNR. Identify the proper application rate for the situation. These rates may vary according to the species to be controlled, water depth and the method of application.
- 3.8 Determine the number of treatments. Generally, only one treatment will be authorized. However, in the case of pond treatments for algae, additional treatments will be considered in cases of severe infestation. On an annual basis observe the following limits for the maximum number of treatments in ponds with recurring, heavy infestations of algae:
- | | |
|---------------------------------|--------------------|
| Algimycin PLL-C Liquid Algicide | up to 3 treatments |
| Slow Release Algimycin PLL-C | up to 3 treatments |
| Cutrine Plus | up to 3 treatments |
| Aquashade | up to 3 treatments |
| Karmex | up to 2 treatments |
| Reglone A | up to 2 treatments |
| Princep Nine-T | up to 2 treatments |
- 3.9 On the WORKING SHEET calculate the amount of pesticide required for the authorized treatment area and the number of applications.

{Consult the list of container sizes and determine if the amount required is close to an available container size. All efforts should be made to avoid storage of excess pesticide by the home-owner. For this reason, some adjustments to the rate and/or treatment size may be warranted. However, the rate must fall within the label rates.}

- 3.10 Select the appropriate permit amendments on the back of the Working SHEET (listed as follows):
- a) "All adjacent land-owners, lessees or affected parties must be notified a minimum of 48 hours prior to the commencement of the treatment."
This amendment shall appear on all amendment letters (except in the case of a pond treatment where the pond is wholly on the applicant's property and does not have any outflow.)
 - b) "The permit holder must provide a copy of this permit, and its amendments to the person(s) performing the application prior to the commencement of the treatment." This amendment shall appear in all multiple property permits and/or cases where the extermination will be performed by a licensed exterminator.
 - c) "Immediately prior to treatment of public or common use areas with Reglone A, signs must be erected adjacent to the water body to be treated, which sufficiently warn the public against using the water for swimming, or human or animal consumption for one day and irrigation for five days. These signs shall remain in place until these specified times have elapsed. It is the responsibility of the applicant to ensure that these signs are removed by the sixth day following treatment."
This amendment shall appear in all cases where the treatment with Reglone A is to be performed in public areas. (ie. common boat launch or public swimming areas)
 - d) "You are authorized to perform one treatment only."
This amendment is to be used in cases in which the applicant has requested more than one treatment, but only one treatment is authorized.
 - e) "Fish taken from water treated with Simadex 80W or Princep Nine-T may not be used for human consumption."
To be used where permission to use the noted products is granted.
 - f) "Immediately PRIOR TO TREATMENT with Simadex 80W or

Princep Nine-T, all outflow from the pond must be closed off and remain closed for at least 10 days following the treatment."

To be used for pond treatments when using either of the noted products.

- g) "The pesticide label for Aqua-Kleen specifies that this product cannot be used within one kilometre of a water intake. As the condition cannot be met in this situation, permission to use an alternate product is hereby authorized as follows."
To be included where the applicant has requested Aqua-Kleen, and where another product will be substituted.
- h) "Immediately prior to treatment of public or common use areas with Aqua-Kleen, signs must be erected adjacent to the water body to be treated, which sufficiently warn the public against using the water for human or animal consumption and irrigation for twenty-one days. These signs shall remain in place until these psecified times have elapsed. It is the responsibility of the applicant to ensure t hat these signs are removed by the twenty-second day following treatment."
This amendment shall appear in all cases where the treatment with Aqua-Kleen is to be performed in public areas. (ie. common boat launch or public swimming areas).
- 3.11 Provide original application form, maps and Working Sheet to the Director under the Act in your Region
- 3.12 Finish updating the Informix Database
- 3.13 Generate "Permit Approval Letter" from the Informix menu
- at prompt enter permit number ie. for WH-4-1-001-93 enter 001
 - mail permit and approval letter to applicant
- OR
- Generate "Permit Denial Letter" from the Informix menu
- at prompt enter permit number ie. for WH-4-1-001-93 enter 001
 - mail permit and approval letter to applicant
- 3.14 At end of season
- 1) alphabetically file MOE copies
 - 2) send MNR copies to appropriate District

Appendix A

Appendix B



